Transportation Library

RAILWAY AGE

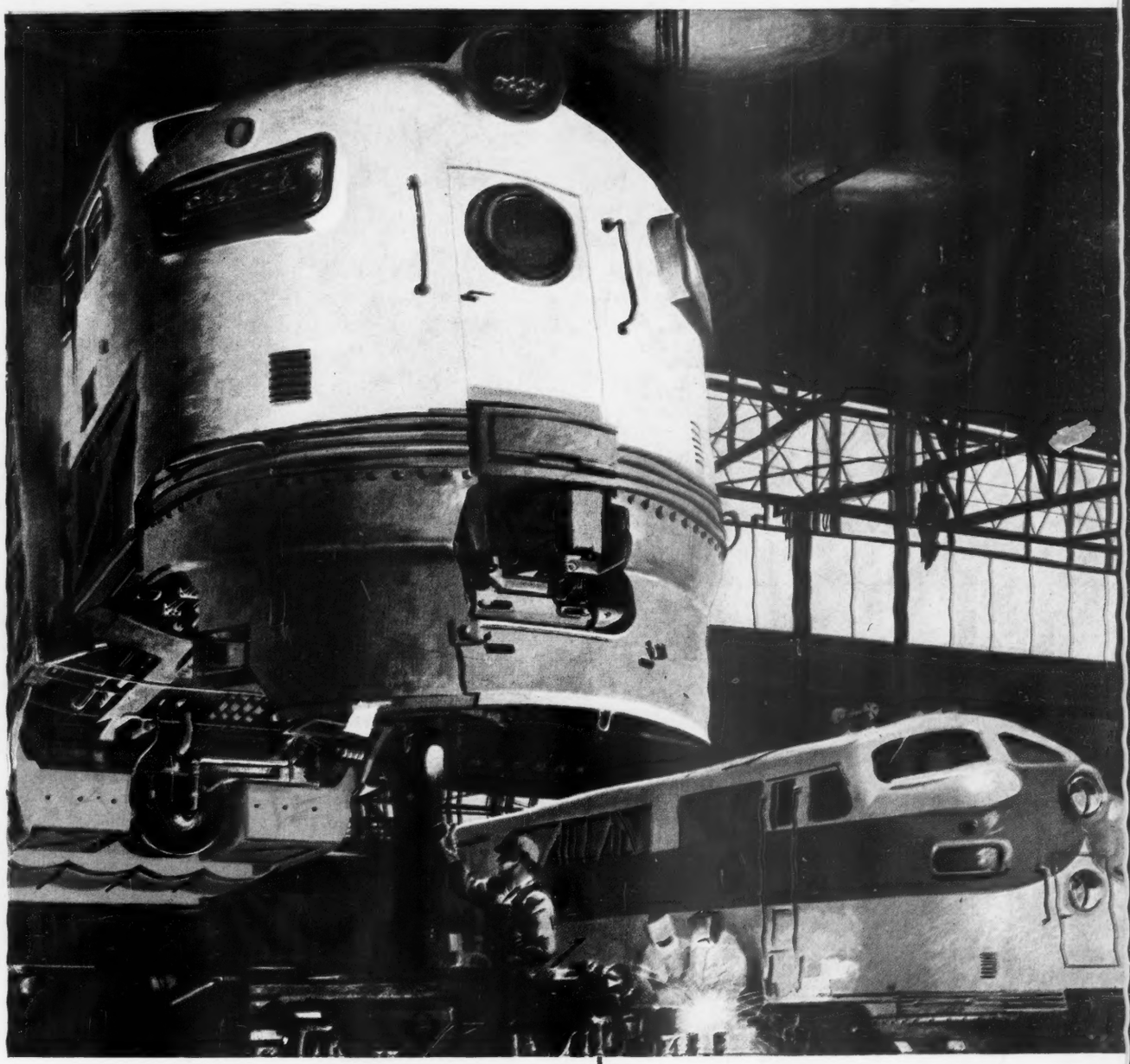
THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

ANNUAL REVIEW AND OUTLOOK NUMBER

JANUARY 14, 1952

2 352

TRANSPORTATION LIBRARY



Experience and facilities accumulated in the design and manufacture of more than 11,000 Diesel locomotive units will be applied to helping solve the motive power problems of American railroads through 1952.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LOCOMOTIVES

GENERAL MOTORS • LA GRANGE, ILLINOIS
Home of the Diesel Locomotive
In Canada: GENERAL MOTORS DIESEL, LTD., London, Ontario

BEARINGS RUN COOLER . . .

when you use TEXACO DRIVING JOURNAL COMPOUND and ROD CUP GREASE

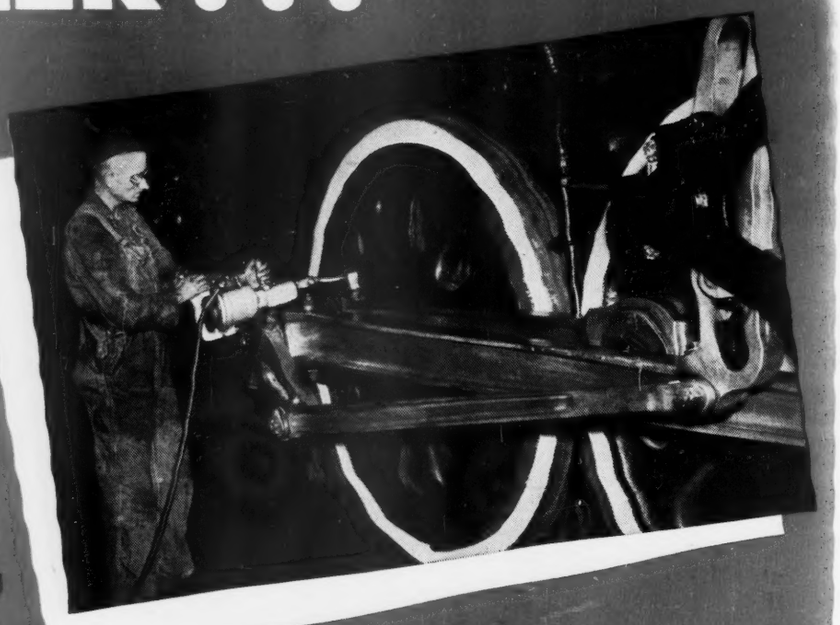


Photo taken in Delaware & Hudson roundhouse, Carbondale, Pa.

For better bearing protection, use *Texaco Driving Journal Compound* and *Rod Cup Grease* — they cling to bearing surfaces and start to lubricate the instant the journal or pin starts to turn. And because they have less internal friction and greater inherent oiliness than other greases used in this service, bearings run cooler.

Other advantages: *Texaco Driving Journal Compound* and *Rod Cup Grease* give longer lasting protection. They are relatively softer than competitive greases, yet have extremely high resistance to heat and pressure — will not squeeze out. They feed more easily and cover the bearing completely, but consumption is less because of their high melting point.

There are cost-saving Texaco Railroad Lubricants to handle every rolling stock lubricating job...and the unique Texaco Systematic Engineering Service helps you use the right lubricants right. These are main reasons why Texaco has long been "first with the railroads," and why—

More steam and Diesel locomotives, and more railway cars in the U. S. are lubricated with Texaco than with any other brand.

Let a Texaco representative give you full details. Just call the nearest Railway Sales office listed, or write:

The Texas Company, *Railway Sales Division,* 135 East 42nd Street, New York 17, N. Y.

LOCOMOTIVE LUBRICATION CHART

Large (59″ x 38″) detailed diagram of typical steam locomotive. Lists 1,051 parts, shows proper Texaco Lubricants to use. We shall be glad to send you a copy without charge. Just tell us the name of your railroad and your position and title, please.

NEW YORK ★ CHICAGO
SAN FRANCISCO ★ ST. PAUL
ST. LOUIS ★ ATLANTA

TEXACO Driving Journal Compound

Faithfully yours 50 *for Fifty Years*

TUNE IN . . . TEXACO STAR THEATER starring MILTON BERLE on television every Tuesday night. METROPOLITAN OPERA radio broadcasts every Saturday afternoon.

Vol. 132, No. 2 January 14, 1952

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

Simmons-Boardman Publishing Corporation: James G. Lyne, President. Samuel O. Dunn, Chairman Emeritus. J. S. Crane, Vice-President and Secretary. C. Miles Burpee, Harry H. Melville, C. W. Merriken, John R. Thompson, William H. Schmidt, Jr., J. S. Vreeland Vice-Presidents. Robert G. Lewis, Assistant to President, Arthur J. McGinnis, Treasurer. Ralph E. Westerman, Assistant Treasurer.

EDITOR ..... James G. Lyne
EDITORIAL CONSULTANT ..... Samuel O. Dunn
MANAGING EDITOR ..... C. B. Tavenner
WESTERN EDITOR ..... William H. Schmidt, Jr.
NEWS & FINANCIAL EDITOR .... Gardner C. Hudson
WASHINGTON OFFICE . . .
Walter J. Taft Joe W. Kizzia
TRAFFIC & TRANSPORTATION DEPARTMENT . . .
Robert G. Lewis John W. Milliken
John S. Gallagher, Jr.
MECHANICAL DEPARTMENT . . .
C. B. Peck E. L. Woodward
H. C. Wilcox C. L. Combes G. J. Weihofen
ELECTRICAL DEPARTMENT ..... Alfred G. Oehler
ENGINEERING DEPARTMENT . . .
M. H. Dick Henry E. Michael
Radford E. Dove
PURCHASES & EQUIPMENT ..... Fred C. Miles
SIGNALING & COMMUNICATIONS DEPARTMENT .. John H. Dunn
WESTERN NEWS DEPARTMENT .. Arthur M. Cox, Jr.
ASSOCIATE EDITOR ..... Charles Layng
LIBRARIAN ..... Edith C. Stone
EDITORIAL ASSISTANT ..... Elaine C. Farrar

Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn., price, $3.00 a year to railroad employees only in U. S., U. S. possessions and Canada, payable in advance and postage free. Subscription price to railroad employees elsewhere in the Western Hemisphere, $10.00 a year; in other countries, $15.00 a year. Two-year subscriptions double the one-year rate. Single copies 50¢, except special issues $1. Address Robert G. Lewis, Assistant to President, 30 Church Street, New York 7.

Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 79 West Monroe Street, Chicago 3, Ill. Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Portland 5, Ore.: Terminal Sales Building—Los Angeles 17: 1127 Wilshire Boulevard—San Francisco 4: 1204 Russ Building—Dallas 4: 2909 Maple Avenue.

REVIEW AND OUTLOOK ISSUE

EDITORIAL COMMENT:

What's Going to Happen to the Railroads? 119
The Long Island Issues Get Drawn More Sharply 121

GENERAL ARTICLES:

A Review of Railway Operations in 1951, by J. H. Parmelee 122
The Railroad Year in Pictures 141
What Tariff Simplification in 1952?, by Charles S. Baxter 154
1951 Capital Outlays, at $1.4 Billion, Set Record, by Walter J. Taft 157
Railroad Financial Outlook Less Satisfactory, by Gardner C. Hudson 160
Railroad Purchases in 1951 . . . Another "Highest Ever", by Fred C. Miles and J. W. Milliken 167
Calendar of Labor and Wage Events—1951 170
Freight Station Mechanization Continued "In High" in 1951, by J. W. Milliken 172
Record Maintenance Equipment Purchases in 1951, by Merwin H. Dick 174
Employee Training Programs Thrive in Accounting Departments, by J. W. Milliken 176
Communications Expanded in 1951, by John H. Dunn and Robert W. McKnight 178
A Progressive Year in Signaling, by John H. Dunn and Robert W. McKnight.... 182
Electrical Highlights in 1951, by Alfred G. Oehler 188
Maintenance Expenditures Hit New High, by Merwin H. Dick 190
Equipment Prices Reported in 1951 193
96,190 Freight Train Cars Ordered, by C. B. Peck and Fred C. Miles 194
Motive Power Orders in 1951, by H. C. Wilcox and Fred C. Miles 202
268 Passenger-Train Cars Ordered in 1951, by C. B. Peck and Fred C. Miles .. 212
Mexican Railways Showed Greater Gross, Less Net in 1951, by J. M. Orozco Escobosa 215
Canadian Railways Face Many Difficulties, but Continue Improvement Programs, by our correspondent at Ottawa 218
High Construction Rate Keeps Roads Ready, by H. E. Michael 222

DEPARTMENTS:

News of the Railroad World 13
Current Publications 268

Published by SIMMONS-BOARDMAN PUBLISHING CORPORATION, New York 7

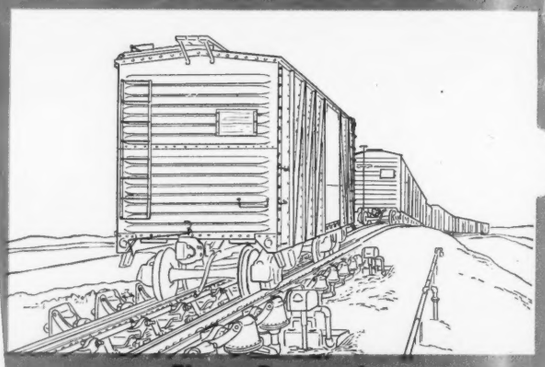
Railway Age Railway Mechanical & Electrical Engineer Railway Engineering & Maintenance
Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
Railway Engineering & Maintenance Cyclopedia American Builder
Railway Engineering & Shipping Review Marine Catalog & Buyers' Directory
Books covering transportation and building

Railway Age is a member of Associated Business Publications (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. Printed in U. S. A.

Meet PEAK TRAFFIC DEMANDS with these "UNION" Systems

Centralized
Traffic Control

Electric and Electro-Pneumatic
Interlockings



Electro-Pneumatic
Car Retarders

Cab Signals and
Inductive Train Communication

"Union" Systems will be a big help to the railroads in meeting the ever-increasing transportation burdens brought about by present conditions.

"Union" Centralized Traffic Control, Car Retarders, Cab Signals, Interlockings and Inductive Train Communication have proved their immense value in increasing transportation capacity by eliminating unnecessary delays, preventing congestion, and building up faster schedules by saving time safely.

Call on "Union" engineers to help you study your problems . . . determine the signal systems that will help you meet peak traffic demands efficiently, with definite savings in operating costs.

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE CO.

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

YEAR AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, eleven months	
1951	$ 9,487,977,087
1950	8,545,280,558
Operating expenses, eleven months	
1951	$ 7,392,178,948
1950	6,413,820,619
Taxes, ten months	
1951	$ 1,101,000,143
1950	1,041,182,757
Net railway operating income, eleven months	
1951	$ 807,862,943
1950	925,024,752
Net income, estimated, eleven months	
1951	$ 543,000,000
1950	662,000,000
Average price railroad stocks	
January 7, 1952	55.22
January 8, 1951	55.79
Car loadings, revenue freight	
52 weeks, 1951	40,497,386
52 weeks, 1950	38,902,641
Average daily freight car surplus	
December 15, 1951	6,969
December 16, 1950	6,182
Average daily freight car shortage	
December 15, 1951	3,793
December 16, 1950	14,433
Freight cars delivered	
December 1951	6,458
December 1950	5,700
Freight cars on order	
January 1, 1952	123,947
January 1, 1951	124,489
Freight cars held for repairs	
December 1, 1951	88,911
December 1, 1950	97,571
Net ton-miles per serviceable car per day	
September 1951	1,074
September 1950	1,084
Average number railroad employees	
Mid-November 1951	1,258,137
Mid-November 1950	1,289,310

AS ANY YEAR PASSES INTO HISTORY, certain of its events are apt to stand out sharp and clear in memory. So it is with 1951. Railroad men, at least, are not likely to forget quickly such events as the summer's floods in the Midwest . . . the disappointingly small Ex Parte 175 freight rate increase . . . Senator Bricker's "progress report" on the Senate subcommittee investigation of transportation . . . the firemen's walkout on a Presidential emergency board . . . the settlement of the long-pending mail pay case . . . the first inclusion of "escalator" clauses in railway labor contracts . . . rousing centennial celebrations by the Illinois Central, the Erie, the Lackawanna . . . creation of a Tariff Research Group to tackle the monumental task of simplifying freight tariffs . . . the February "illness" of so many switchmen.

WHEN ALL RETURNS ARE IN, HOWEVER, such eye-catching, headline-worthy events may well prove to have been less important to the railroads as a whole than the undramatic, day-by-day struggle to provide more efficient service . . . to keep costs in reasonable relation to revenues . . . to obtain and to finance the new equipment and facilities which the industry constantly needs . . . to obtain some measure of equitable treatment from government and public . . . "to fulfill the obligation of preparing to meet all requirements for adequate service, of whatever nature."

MORE EFFICIENT SERVICE was provided, beyond any question. Both gross and net ton-miles per freight-train hour, for example, were headed for new all-time high records; other accepted indices of operating efficiency compared favorably with the best achievements of earlier years (pages 131-132); substantially higher freight traffic was handled with only a few more cars, but with consistently smaller car shortages than those which plagued shippers and railroads alike in the second half of 1950.

THE BATTLE to keep costs under control, on the other hand, was less successful—largely because of developments beyond direct railroad control, notably the skyrocketing prices of materials and supplies (page 127) and government-sanctioned wage increases, including the aforementioned "escalator" clauses (page 125). Thus, although total operating revenues increased approximately 9.3 per cent over 1950, operating expenses went up 13.8 per cent, with the result that net railway operating income dropped by 13.2 per cent and net income was down by 20.3 per cent (pages 123-125).

DESPITE THE RESULTANT SHRINKAGE in the industry's financial resources (pages 124 and 160)—and despite shortages of many necessary materials (page 130)—gross capital expenditures

YEAR AT A GLANCE

touched an all-time record high of over $1,400,000,000—about 75 per cent for new equipment and 25 per cent for improvements to fixed property (pages 130 and 157). The railroads demonstrated their faith in the future and their determination further to improve their service by ordering most of the 4,100 new locomotives (page 202) and the 96,000 new freight cars (page 194), and all the 261 new passenger-train cars (page 212), bought during the year. They began, or continued, many major construction projects (page 222). They forged steadily ahead with improvement of their self-provided communications and signaling systems (pages 178 and 182). They made record purchases of cost-saving maintenance-of-way equipment (page 174).

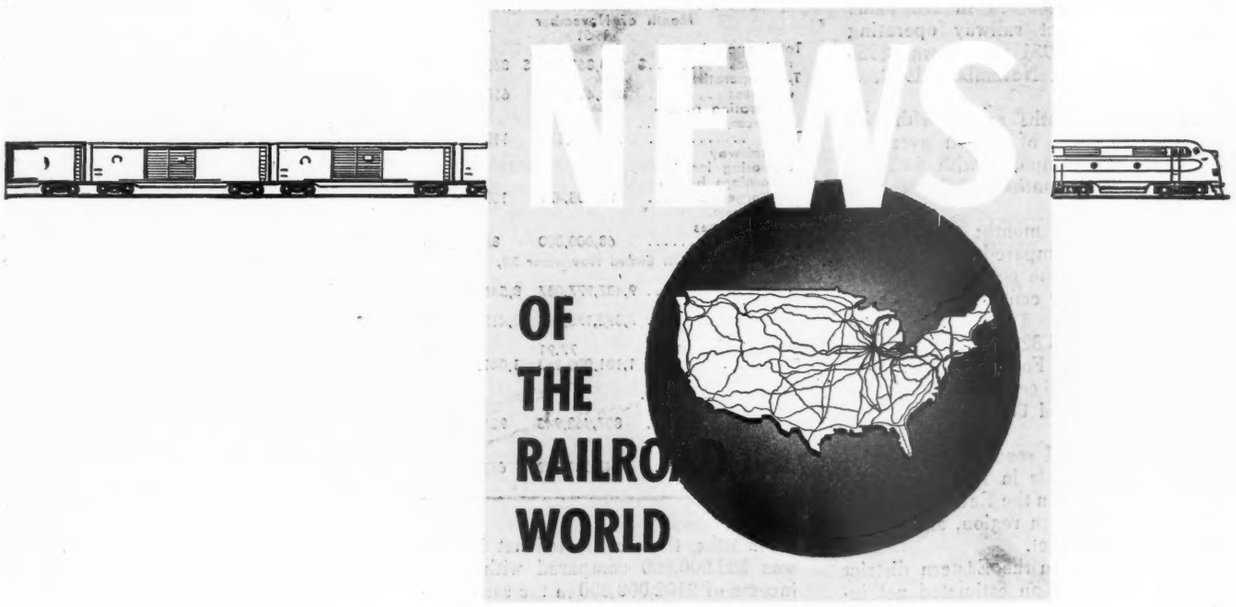
THEY DID ALL THIS despite the I.C.C.'s obvious reluctance to see eye-to-eye with management on the need for larger rate increases (page 128); despite unsettled labor problems (pages 125 and 170); and despite the imbalance which continues to prevail in their competitive situation (page 138). The Bricker report (page 135) was an encouraging, although still intangible, development in that controversial field and there is some evidence, e.g., the U.S. Chamber of Commerce's December Transportation Conference in Cleveland (Railway Age, December 24, 1951), that some shippers would willingly give the railroads greater freedom in setting rates and meeting competition.

BUT WHEN ALL IS SAID AND DONE, 1951 actually settled little or nothing. The obligations and the problems which confronted the railroads at the beginning of the year still confronted them at its end (pages 119, 140). That the railroads will, to the best of their ability and their financial resources, meet their obligations to the nation is proved beyond question by the way they have met them in the past and by what they did in 1951. The bigger question—which may or may not be answered in 1952—is: Will the nation meet its obligations to the railroads?

A PICTORIAL RECORD of some of the year's major events begins on page 141. The important work of the new Tariff Research Group is outlined by its chairman, Charles S. Baxter, on page 154. What was done to improve freight handling by increased use of mechanical equipment is told on page 172, while "mechanization" of "paper work" is discussed on page 176. Some reasons why costs and spending ran so high are contained in the article on maintenance expenditures (page 190) and in the table of equipment prices on page 193; other details of what the railroads bought are given in the purchases summary on page 167. Electrical developments are related on page 188, and events in Mexico and in Canada—which closely paralleled those in the United States—on pages 215 and 218, respectively.

DR. JULIUS H. PARMELEE, vice-president of the Association of American Railroads, and director of its Bureau of Railway Economics, is generally regarded as the premier statistician of the railroad industry. His survey of railway developments during 1951—similar to his previous surveys which have featured so many earlier Review and Outlook issues of Railway Age—begins on page 122.

AS 1952 BEGAN, the news was not altogether cheerful. The report of earnings for November and 1951's first 11 months (page 13) revealed a continuation of the same trends noted in returns for earlier months—expenses climbing much faster than revenues, with a resulting decline in net income and in rate of return. Another proposed steel cut for 1952's second quarter would leave only enough for 5,000 freight cars per month—"barely enough to offset the normal rate of retirement," A.A.R. President William T. Faricy said in a Philadelphia speech (page 13). And railroad men will probably derive little comfort from optimistic year-end statements by spokesmen for other forms of transportation. But there was one cheerful note, struck by P.R.R. Vice-president David Bevan, in a talk at New York (page 15). "The vigor and progressiveness" of railroad management, he said, can "restore vigor" to the industry. They need only a chance to operate!



Cut in Steel Allocations Will Reduce Freight-Car Program to Break-Even Point

The proposed cut in steel allocations for railroad freight cars to 5,000 a month for the second quarter of 1952 will provide barely enough cars to offset the normal rate of car retirement, William T. Faricy, president of the Association of American Railroads, said last week.

This leaves virtually no margin for the increased capacity which government authorities say the railroads will need to meet the demands of defense, Mr. Faricy declared at the annual dinner of the Traffic Club of Philadelphia.

The A.A.R. president stated that the railroads' broad expansion and improvement program, initially approved by government allocation officials, called for the production of a minimum of 10,000 new freight cars a month.

"Unfortunately, even before the approved production of 10,000 new cars per month was attained," Mr. Faricy continued, "the allocating authorities began a process of whittling down the amounts of materials made available for this essential purpose—first to 9,500 cars per month, then to 8,600, later to 6,800, and now for the second quarter of 1952, a tentative allocation of 5,000 cars per month."

This same trimming process has also applied to locomotives, Mr. Faricy added. While those in charge of steel allocations near the end of 1950 and in early 1951 recognized the need for more diesel-electric locomotives and approved allocations looking toward a production of 300 units per month, so deep have been cuts in materials allocations that in the second quarter of 1952, builders face the prospect of producing less than 200 units per month.

"The railroads will continue to do their utmost to meet national needs, despite a scarcity of materials and the growing scarcity of money with which to meet the mounting cost of improvements, as well as of day-by-day operations," Mr. Faricy declared.

Decreasing railroad earnings are reflected in the fact that since the end of World War II, the working capital of the carriers has dwindled from more than a billion and a half dollars to less than half a billion, an amount sufficient to meet current cash outlays for a good deal less than one month, Mr. Faricy explained.

"This is the minimum below which working capital cannot be safely allowed to fall," he said.

Such a drastic fall in working capital is a result of a general decline in earnings resulting in large part from the lag between increases in railroad freight charges and the much larger and faster rises in unit costs of labor and materials and supplies, Mr. Faricy stated.

"Despite this lag, the carriers have gone ahead with their program of enlarging capacity to meet national needs," Mr. Faricy said. "It is essential to the national safety that this program be carried forward. But continuation of the railroad improvement program depends not only on a better supply of necessary materials, but also on the earnings position and prospects of the railroads. And that, for the present and immediate future, depends on prompt and effective action by the Interstate Commerce Commission in the freight rate case now pending before that body, further hearings in which are scheduled to commence six days hence."

Eleven Months Net Down $119 Million From the Comparable 1950 Figure

Class I railroads in the first 11 months of 1950 had an estimated net income, after interest and rentals, of $543,000,000, compared with $662,000,000 in the corresponding period of 1950, according to the Bureau of Railway Economics of the Association of American Railroads. The 11-months net railway operating income, before interest and rentals, was $807,862,943, compared with $925,024,752 in the first 11 months of 1950.

Estimated results for November showed net income of $68,000,000, com-

pared with $87,000,000 in the same 1950 month. Net railway operating income for the 1951 month was $95,008,471, while in November, 1950, it was $109,874,448.

In the 12 months ended with November, the rate of return averaged 3.75 per cent, compared with 4.05 per cent for the 12 months ended with November, 1950.

Gross in the 11 months amounted to $9,487,977,087 compared with $8,545,280,558 in the same period of 1950, an increase of 11 per cent. Operating expenses amounted to $7,392,178,948 compared with $6,413,820,619, an increase of 15.3 per cent. For November, gross increased 4.8 per cent, and operating expenses increased 8.7 per cent, 1951 over 1950.

Eighteen Class I roads failed to earn interest and rentals in the 11 months, of which 11 were in the Eastern district, two in the Southern region, and five in the Western district.

Class I roads in the Eastern district in November had an estimated net income of $24,000,000 compared with $21,000,000 in November, 1950. In the 11 months, their estimated net income was $185,000,000 compared with a net income of $226,000,000 in the same period of 1950.

Their net railway operating income in November amounted to $36,840,308 compared with $30,853,995 in November, 1950. Those same roads in the 11 months had a net railway operating income of $326,709,759 compared with $357,966,862 in the same period of 1950.

Gross in the Eastern district in the 11 months totaled $4,225,668,910, an increase of 11.9 per cent compared with the same period of 1950. Operating expenses totaled $3,383,738,984, an increase of 14.6 per cent.

Class I roads in the Southern region in November had an estimated net income of $9,000,000 compared with $14,000,000 in November, 1950. In the 11 months, their estimated net income was $85,000,000 compared with a net income of $102,000,000 in the same period of 1950.

CLASS I RAILROADS—UNITED STATES

	Month of November 1951	1950
Total operating revenues	$ 903,863,706	$ 862,200,972
Total operating expenses	672,482,095	618,607,681
Operating ratio—percent	74.40	71.75
Taxes	118,825,113	119,209,878
Net railway operating income (Earnings before charges)	95,008,471	109,874,448
Net income, after charges (estimated)	68,000,000	87,000,000
Eleven Months Ended November 30, 1951		
Total operating revenues	9,487,977,087	8,545,280,558
Total operating expenses	7,392,178,948	6,413,820,619
Operating ratio—percent	77.91	75.06
Taxes	1,101,000,143	1,041,182,757
Net railway operating income (Earnings before charges)	807,862,943	925,024,752
Net income, after charges (estimated)	543,000,000	662,000,000

Those same roads in November had a net railway operating income amounting to $13,553,073 compared with $18,598,915 in November, 1950. Their net railway operating income in the 11 months amounted to $127,810,605 compared with $140,835,195 in the same period of 1950.

Gross in the Southern region in the 11 months totaled $1,318,737,911, an increase of 11.7 per cent compared with the same period of 1950, while operating expenses totaled $1,008,524,028 an increase of 15.2 per cent.

Class I roads in the Western district in November had an estimated net income of $35,000,000 compared with $52,000,000 in November, 1950. Their estimated net income in the 11 months was $273,000,000 compared with $334,000,000 in the same period of 1950.

Their net railway operating income in November amounted to $44,615,090, compared with $60,421,538 in November, 1950. Those same roads in the 11 months had a net railway operating income of $353,342,579 compared with $426,222,695 in the same period of 1950.

Gross in the Western district in the 11 months totaled $3,943,570,266, an increase of 9.9 per cent compared with the same period of 1950, while operating expenses totaled $2,999,915,936, an increase of 16 per cent.

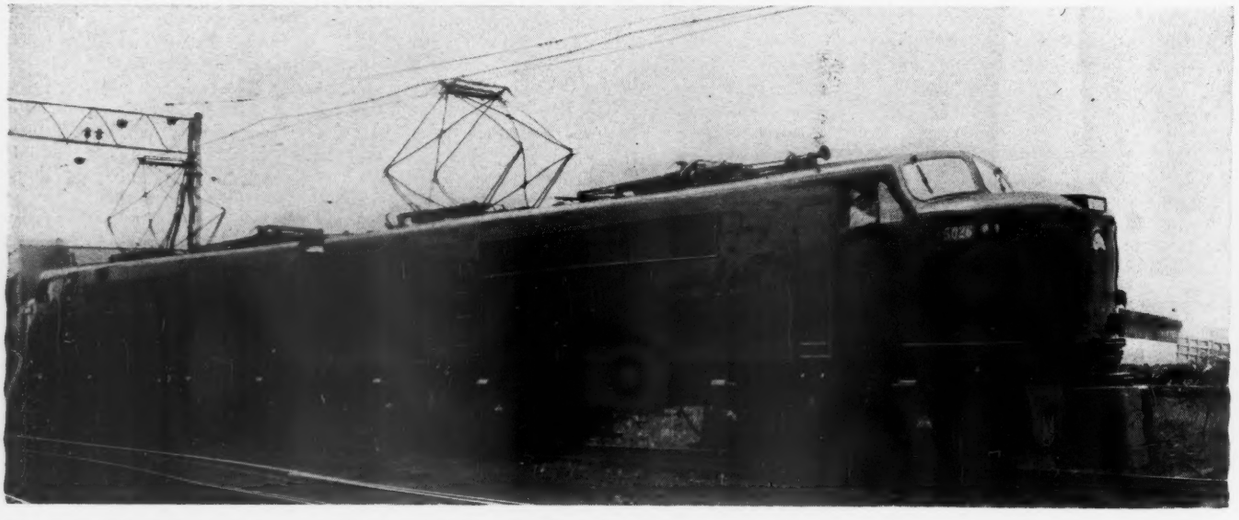
G.E. Introduces Low-Cost Electric Locomotive

The General Electric Company has developed a low-cost electric locomotive which can handle main-line freight traffic on nearly 90 per cent of America's electrified lines.

In announcing the new a.c. locomotive designed for quantity production, G. W. Wilson, manager of General Electric's Locomotive and Car Equipment department, said rising transportation costs have forced the railroad industry to seek a relatively inexpensive standard electric locomotive which can operate efficiently at a low maintenance cost.

G.E.'s contribution is a single-phase, a.c. locomotive planned for mass production. The streamlined cab, carried on two two-axle swivel trucks, is essentially similar to a diesel-electric freight locomotive. All axles are powered by a.c. commutator motors. Dynamic braking is used — the first time it has been applied to this type of locomotive in the United States.

The locomotive operates from 11,000-volt, 25-cycle, single-phase, a.c. trolley wire, used by the majority of electric locomotives in this country. Each unit has a continuous rating of 2,500 hp., and can develop as much as 5,000 hp. for short periods. As many as four units can be operated in multiple.



The two-unit locomotive has a continuous rating of 5,000 hp. It is the first series a.c. locomotive built in America to be equipped with dynamic braking

Bevan Assails Over-Regulation, Unfair Competition

Quick restoration of railroads' earning power, stability and full productiveness would ensue if progressive railroad management were given freedom from over-regulation and subsidized competition, David C. Bevan, vice-president — finance of the Pennsylvania, said in New York on January 3. Mr. Bevan, addressing the January meeting of the chamber of commerce of the State of New York, pointed out that if the Interstate Commerce Commission had allowed railroads adequate rates to earn a minimum of 6 per cent return which federal and state commissions allow telephone and electric utilities, net income of the roads would have been increased from $780,000,000 to over $1,000,000,000. For the Pennsylvania alone this would have meant an increase from $38,000,000 to $100,000,000.

"With earnings at such a level [he emphasized] we could hope to accumulate the financial strength and flexibility which may be needed to meet future contingencies. I find among our executives a determination and a conviction that we can restore our earnings to a proper level—if given reasonable conditions. Only once in 30 years has the railroad industry as a whole earned as much as 6 per cent on net investment, and that in one of the war years. The average rate of return for the past 15 years was 3.67 per cent. On this record railroad securities have not been attractive and therefore not competitive with other investments in this dynamic period of American industrial growth. These facts do not stem from any inherent inability of railroads to make money. The overwhelming task is to improve the mechanism of the regulation to which we are subject. Neither the railroads nor any other industry can hope to make progress or even maintain itself in efficient condition under regulation which gives no consideration to the need to attract new capital."

Impressed by RR Vigor

Mr. Bevan asserted that since his entry into the railroad field — he was formerly treasurer of the New York Life Insurance Company — he has been impressed by the vigor and progressiveness of his railroad associates and their eagerness for new methods and fresh viewpoints. As evidence of this, he pointed to the improvement in railroad efficiency in just the last year, which shows a value to Pennsylvania operations of millions of dollars. "Over a longer period," he said, "it is significant that the Pennsylvania now handles more business than in 1929, with 40,000 fewer employes. Today we can handle a larger volume of business with 200,000 freight cars than we did in the twenties with 285,000. Similarly, in almost every category railroad operations have shown tremendous gains in efficiency, whether you look at them over a period of decades or just the current year."

Pointing to the inadequacy of recent rate increases in the light of pyramiding advances in rail costs and the reasonable rate increases requested, Mr. Bevan said "it should be clearly recognized that the railroad industry no longer has a monopoly on transportation, and therefore the proper pricing of our commodity is a function of management which should be returned to management promptly by modernizing the Interstate Commerce Act. Today the railroads are carrying the greatest volume of traffic in history, with the exception of the war years, not only in dollars, but in units. We are operating at a high level and if given proper rate increases are in a position to enjoy relative prosperity."

Turning to subsidized competition, the P.R.R. officer said "every form of transportation that competes with railroads for long distance business is assisted by direct or indirect financial aid paid for by the general taxpayer—of whom you and I are representatives—and we have for partners in this taxpaying the railroads whose taxes are contributing to help support their competitors. That is something that must be corrected if we are to restore vigor to the transportation industry. We welcome competition because we believe in it. It is the code of life of the most productive type of American business — including railroads — but we hate to go into the ring with a worthy opponent when one of our hands is tied to our side by the red tape of national and state laws while the other guy is free swinging. That there is room, need and justification in this country for all forms of transport is not questioned, but we would like our share of the bed!

"We are extremely hopeful that the next session of Congress will give a great deal of thought to the necessity of assuring this country a strong and vigorous national transportation system."

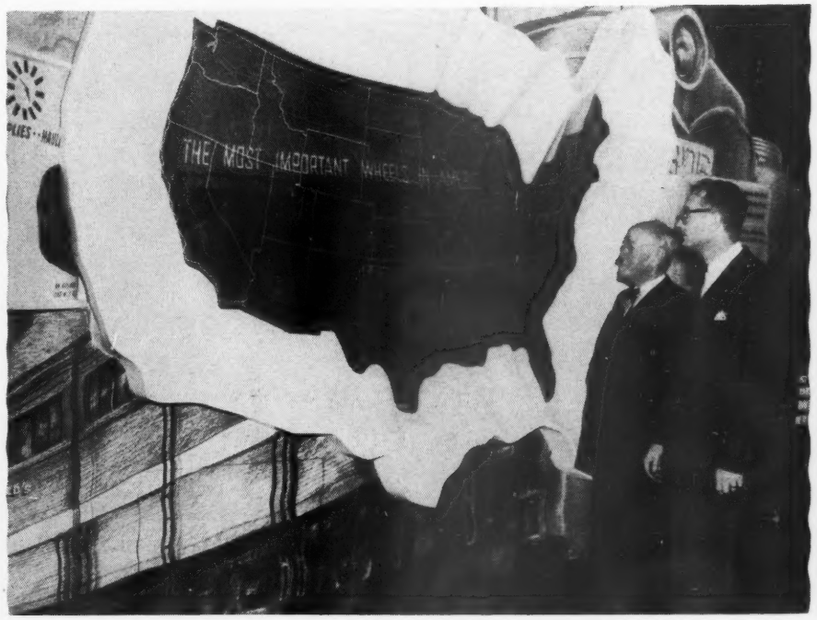
G.N. Plans to Reroute "Western Star"

The Great Northern has applied to the Montana Board of Railroad Commissioners for permission to reroute the streamlined "Western Star" via Great Falls instead of on the direct main line route between Havre and Shelby. The move will enable the road to offer "transcontinental" service to Great Falls, a city of about 40,000 people, for the first time. Presently, all passenger service into the city is by connecting trains requiring transfer.

The move will not affect the "Western Star's" overall running time between Chicago and the Pacific Northwest, but some intermediate schedule adjustments will be necessary. Simultaneously, the G.N. plans to rearrange intrastate passenger trains between Great Falls, Billings, Butte, Shelby and Havre to provide connections with the "Western Star" at Great Falls. In several instances, improved equipment is to be added to these local trains.

Shortages May Cause Drop In Freight Car Output

Competing demands for materials may not permit a sufficiently high level of freight car production in 1952 to keep pace with requirements, Charles



RAILROADS' PLACE IN INDUSTRY is emphasized in this elaborate display, arranged by the Association of American Railroads for the recently completed public reception room of the New York Stock Exchange. Col. Robert S. Henry, A.A.R. vice-president—public relations, and G. Keith Funston, president of the exchange, here are examining the illuminated laminated transparent map which constitutes the main feature of the new wall display

E. Wilson, Director of Defense Mobilization, said in his latest report to the President.

"Increasing car requirements for ore, coal, liquids and chemicals, petroleum, grain and manufactured commodities are forecast for 1952," Mr. Wilson said. He added that this may result in increased car shortages, and needs can be met "only if the available cars are used as efficiently as possible."

Railroads in 1951 were able to meet all essential requirements because of the production of 96,000 new freight cars and 2,550 diesel-electric locomotives, a reduction in the number of cars under repair, and "somewhat more efficient" utilization of equipment, Mr. Wilson continued.

Some shipments were delayed for short periods, but no essential production was lost because of car shortages, he said. He noted that serviceable freight cars increased by about 40,000 during the year, and that average daily shortages during the fall peak of 1951 were less than half the 1950 level.

In discussing highways and highway transportation, Mr. Wilson had this to say:

"For a decade, highway construction and maintenance have lagged behind increasing highway traffic. Allocation of structural and plate steel for this purpose in the first quarter of 1952 had to be reduced substantially below requirements. Even with increased allotments of materials after April 1, it will take years to bring our highways up to the standard required by the volume of traffic."

Air traffic increased 30 per cent in 1951, Mr. Wilson reported. He said 397 transport planes and more than 8,500 smaller planes have been approved for construction in the next 30 months.

GEORGE SAMUEL EDGAR, age 9, of Wappingers Falls, N. Y., believes in private enterprise—and he thinks the Erie Railroad "is the best in the world"—because he used to live in Ridgewood, N. J., and spend his afternoons at the Erie station there. So last fall, having saved up "pretty near $11.25" earned by doing household chores, he wrote to Erie President Paul W. Johnston asking if that would be enough to buy some stock in the Erie. It wasn't quite enough—but Mr. Johnston made up the difference out of his own pocket and invited George to receive his share in person at the Erie director's meeting in New York last month. The upper picture shows Mr. Johnston presenting the certificate to George; the lower shows George inspecting "his" property from the cab of a diesel locomotive en route from Jersey City to Ridgewood

40.5 Million Cars Loaded In 1951; 4.1% Over 1950

Loadings of revenue freight on American railroads totaled 40,497,386 cars in 1951, according to the Association of American Railroads. This was an increase of 1,594,745 cars, or 4.1 per cent, over 1950.

"With new records in both train loads and train speeds," the A.A.R. said, "the average freight train in 1951 achieved a record transportation output equivalent to moving approximately 21,700 tons of freight one mile in an hour. This was 6.7 per cent higher than in 1950, and about 23 per cent above the peak output of the years of World War II. It also was almost three times as much as it was 30 years ago."

The 1951 and 1950 loadings by commodity groups are compared in the accompanying table.

	1951	1950	Per cent Inc.	Per cent Dec.
Grain and grain products	2,587,862	2,465,557	5.0	
Livestock	497,178	491,009	1.3	
Coal	7,502,693	7,239,789	3.6	
Coke	837,163	727,188	15.1	
Forest products	2,363,577	2,225,803	6.2	
Ore	3,004,141	2,528,699	18.8	
Merchandise, L.C.L.	3,886,031	4,269,219		9.4
Miscellaneous	19,838,741	18,955,377	4.7	
TOTAL	40,497,386	38,902,641	4.1	

More Joint Rates, Through Routes Urged by Knudson

Further coordination of transportation through joint rate and through route arangements was advocated by Defense Transport Administrator James K. Knudson in a January 10 speech before the Birmingham, Ala., Traffic and Transportation Club.

"I propose that the various types of carriers resolve to seek out and promote opportunities for joint operation with the purpose of improving service to the public and achieving operating economies for themselves," Mr. Knudson declared.

The D.T.A. administrator spoke on "New Year Resolutions for Motor

DECEMBER 18, 1951, WAS A BIG DAY at the Bessemer, Ala., plant of the *Pullman-Standard* Car Manufacturing Company, for this PS-1 box car completed on that day for the Southern was the 100,000th freight car to be built at Bessemer since the plant was opened in 1929. Grouped in front of the car for a photographic record of the event are (left to right): J. E. Bolen, manager of works; W. C. Sleeman, assistant vice-president; R. M. Shaver, chief freight car engineer (of Michigan City, Ind., plant); F. O. Reemer, vice-president in charge of Birmingham, Ala., sales office; A. W. Padgett, chief inspector for the Southern; D. A. Ellithorpe, chief engineer of the Bessemer plant; and F. W. Green, general superintendent, and John Guyton, assistant superintendent, both of the Pullman Bessemer plant

Transport." The idea of "coordinating motor transportation with other types of carrier service" was one of his suggestions.

Another recommendation by Mr. Knudson was that motor carriers review procedures and practices for reducing loss and damage claims.

He gave the example of an unnamed midwestern railroad that "hired a combination diplomat and packaging engineer to do the job." This gentleman "solved mystery after mystery," until the reduction in damage claims far exceeded the cost of providing this counseling service.

Mr. Knudson also commented on the way Congress has cut I.C.C. funds. He said effective regulation is threatened because the commission lacks sufficient funds to staff its various bureaus.

"In thinking over new resolutions which might be helpful to transportation in this coming year, none strikes me as more urgent or more important than to foster an awareness throughout the shipper and carrier community of the present plight of the commission," Mr. Knudson declared. He said the Interstate Commerce Act is not being enforced because the I.C.C. does not have the staff to do the job.

New Haven Adds Non-Stop Boston-New York Train

The "Advance Merchants Limited," a new non-stop, four-hour train to be operated in each direction between Boston and New York, daily Mondays through Fridays, inclusive, was inaugurated by the New York, New Haven & Hartford on January 7.

Using the New Haven's Shore Line, the train will leave each city at 4:55 p.m. and arrive at the other at 8:55 p.m. Equipment will include parlor cars, lounge car with two-way radio telephone service, dining car, grill car and reclining seat coaches.

The regular "Merchants Limited," carrying the same types of equipment, will continue to leave both Boston and New York at 5 p.m. daily, with stops at Providence, New London and New Haven.

Army Won't Become Party To Wage-Rules Disputes

The Order of Railway Conductors' request that the Department of the Army become a party to arbitration proceedings for settlement of the Conductors' stalemated wage and rules dispute has been rejected. Assistant Secretary of the Army Karl R. Bendetsen made a reply to that effect to the letter requesting the arbitration arrangement which O.R.C. President R. O. Hughes sent on December 7, 1951, to Secretary of the Army Frank C. Pace, Jr.

Responsibility for operation of the railroads under President Truman's seizure order has been delegated by Mr. Pace to Mr. Bendetsen. In his letter to Mr. Hughes, Mr. Bendetsen said the O.R.C. plan (*Railway Age* of December 17, 1951, page 11) would amount to compulsory arbitration; yet "under present law . . . the owning companies and your organization are not subject to compulsory arbitration and the Army is without power to require it."

Earlier in the letter, Mr. Bendetsen had noted that "the owning companies are not under government control." He added: "The physical transportation systems owned by them are in the possession of the government and under its control and operation. The corporate entities themselves are not."

Mr. Bendetsen also expressed his "personal and profound hope that through their mutual efforts the disputing parties will agree on a way to resolve their long-standing differences at an early moment so that the seized systems can be returned to private operations in the public interest." Meanwhile, the assistant secretary set out the position of the Army with respect to the existing disputes which, he said, are "between the collective bargaining representatives of the employees concerned on the one hand and the owning companies on the other."

"Under the Executive Orders of the President," Mr. Bendetsen continued, "the Department of the Army was made primarily responsible for continuous and uninterrupted operation of the rail transportation systems of which possession was taken. Resolution of the existing disputes between the railway labor organizations and the owning companies was expressly left to collective bargaining and other existing mediation proceedings. In keeping with the letter and spirit of the pertinent Executive Orders of the President, the Army is required thereby to maintain an attitude of strict neutrality with respect to these disputes."

N.P.A. May Now Change Equipment Delivery Plans

When requested to do so by a claimant agency, the National Production Authority may hereafter direct the modification or alteration of a railroad equipment builder's production or delivery schedule "to meet the requirements of national defense."

That plan for "directive action" was provided in an N.P.A. order (M-95) which became effective January 4. The order stipulated that N.P.A. may act under its provisions "without regard to the provisions of N.P.A. Reg. 2 or the preference created by rated orders."

M-95, requires equipment builders to report: (1) Not later than the fifteenth day of the first month of each calendar quarter their proposed production and delivery schedules for the succeeding quarter; and (2) not later than the fifth day of each month their actual deliveries for the preceding month. These reports, to be made on Form NPA-150, will provide the necessary information for any "directive action" under the order, an N.P.A. press release said.

Supreme Court Will Review I.C.C.'s Florida Rate Order

The United States Supreme Court has agreed to review a lower-court ruling which upheld an Interstate Commerce Commission order that required increases in Florida intrastate freight rates.

The case is docketed in the Supreme Court as No. 444. It involves the appeal of the Florida Railroad and Public Utilities Commission from an I.C.C. order requiring railroads serv-

ing that state to apply the Ex Parte 162 and Ex Parte 166 increases to their intrastate rates.

The appellants' principal contention is that the I.C.C. lacks power to increase freight rates to offset losses from passenger traffic. "The Supreme Court," their pleadings said, "has never before passed upon the question of whether or not intrastate shippers and receivers of freight can be lawfully required by the Interstate Commerce Commission in the exercise of its 13th section powers to pay excessive and unreasonably high freight rates so as to enable railroad carriers to recoup losses incurred in their passenger operations."

Sees Rail "Breakdown" Without More Steel

A "breakdown" of the nation's rail transportation service by mid-1952 when war production reaches its peak has been forecast — unless a more liberal allocation of steel for freight cars, locomotives and rails is forthcoming. Authority for this forecast is Frank G. Moore, chairman of the National Industrial Traffic League's Transportation Instrumentalities and Car Service Committee, and traffic manager for the Columbia-Southern Chemical Corporation.

To secure a more adequate and constant allocation of steel for cars, rails and locomotives, Mr. Moore said the league has cited to the Defense Production Administration the following facts:

Every year since 1944, there have been serious car shortages. In some years, like 1950, this shortage was chronic. The railroads have less cars than they had 30 years ago or even at the peak of World War II. The fluctuation in allocation of steel for construction of new cars has caused a loss of experienced labor in the car building industry.

Maintenance of a continuous and uniform allocation of steel will eliminate peaks and valleys in car construction, permit maintenance of an efficient operation and insure a skilled labor supply.

Cars are required to deliver raw materials. A bottleneck is being created because production now exceeds ability to transport. This situation will be further aggravated when production for defense hits its stride about the second quarter of 1952.

The government is urging all-out production for both manufacturing and agriculture. Manufacturing has not been as vocal as agriculture about car shortages.

Heileman Praises T.C. For Its Work in 1951

Praise for Transportation Corps personnel, and the way in which they carried out their duties in 1951, was contained in a year-end statement by Major General Frank A. Heileman, the Army's Chief of Transportation.

Gen. Heileman stressed the worldwide character of T.C. activities as well as their varied technical nature. He cited the work of the corps in Korea, and the operation of ports in this country. Tasks performed included supply operations at T.C. depots, repair activities in the corps' own railroad shops, overseas training and research, and technical advisory work on such projects as the U.S. Military Aid Mission to Turkey.

Cost-consciousness of T.C. personnel also drew praise from Gen. Heileman. He said lumber reclamation projects at the ports and scrap steel salvage operations at T.C. facilities were good examples of work done in this field.

L. V. STATION TO BECOME RECREATIONAL CENTER

An outdated station of the Lehigh Valley at North Harford, N. Y., will soon become a recreation center for youth of that community. When the subject of the future of the building came to the attention of Cedric A. Major, L. V. president, he acceded to a suggestion from the Rev. William A. Highfield, pastor of the Harford Methodist Parish, that the building be made available to a group for which he spoke.

Pastor Highfield indicated his church group had tried to interest teen-agers "but we have nothing to offer as do other churches in communities 'round about us. This unfortunate situation has resulted in the necessity of our young folk having to seek their fun and recreation away from home and, of course, not always in the best of places." Pastor Highfield has been told the railroad is glad to cooperate with him and will convey the station building, which will be removed to the church site, by bill of sale for $1.

Waterways Group Reports Record Traffic for 1951

The barge and towing-vessel industry in 1951 "moved more freight than in any previous year," and is entering 1952 "equipped to move still greater tonnages farther and faster," according to a year-end statement by American Waterways Operators, Inc.

Towboats, tugs and barges in the industry's fleet totaled 18,586 vessels at the end of 1951, with another 1,013 vessels on order, the statement said. Capital investments in 1952 are expected to be about $200 million.

"Numerous integrated and articulated tows, revolutionary in design, made their appearance on the western rivers and the intra-coastal waterways in 1951," the statement said. "These are principally in the petroleum and coal trades. Petroleum tows comprising six or eight barges having a total capacity of seven million gallons or more and coal tows of 20,000 tons are now common on the Mississippi and Ohio Rivers and their tributary rivers and canals."

The statement went on to say that improvements to principal channels of water-borne commerce "were prosecuted . . . in many quarters" by the Corps of Engineers in 1951.

MORE NEWS ON PAGE 227

Additional general news appears on page 227, followed by regular news departments which begin on the following pages:

Car Service	228
Organizations	228
Supply Trade	228
Equipment and Supplies	230
Construction	232
Financial	232
Railway Officers	236

Canadian Car Loadings

Car loadings in Canada, through December 29, 1951, totaled 4,166,515, an increase of 261,618, or 6.7 per cent, over 1950 loadings of 3,904,897 cars. Cars received from U. S. connections totaled 1,781,029, which was 133,846 cars, or 8.1 per cent, more than the 1,647,183 received in 1950. Detailed figures, as compiled by the Dominion Bureau of Statistics, follow:

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
December 29, 1951	48,788	27,829
December 30, 1950	54,361	29,408
Cumulative totals for Canada:		
December 29, 1951	4,166,515	1,781,029
December 30, 1950	3,904,897	1,647,283

Israeli Group Studying Denver & Rio Grande

A five-man team of key railroad personnel from Israel has begun a period of study and observation on the Denver & Rio Grande Western under a Point IV project to aid in development of Israel.

The group, first from that country to participate in a regular Point IV training program, includes representatives of the Israel Railways general management, traffic and mechanical departments. After two weeks in Washington conferring with public and private transportation specialists, the group is spending about three months in intensive work on the Rio Grande, and will conclude their stay in the United States by visiting other points of railroad interest.

Members of the party are Yitshaq Nissan, principal assistant to the general manager; Dror Alon, principal assistant to the traffic manager; Aubrey Even, senior traffic inspector; Max Avnur, inspector of road, rail and firefighting equipment; and Chanan Ophir, foundry foreman. The purpose of their trip is to observe modern U. S. railroad operating methods with a view to adapting as many as possible for greater efficiency in Israel transportation.

RAILWAY AGE
EDITORIAL COMMENT

WHAT'S GOING TO HAPPEN TO THE RAILROADS?

It is hard for anyone attentive to economic trends to be unreservedly optimistic about the 1952 outlook for general prosperity—or for that of the railroads in particular, at least as far as external evidence is concerned. Unfavorable factors in the general business situation could, it is true, be largely or entirely overcome by wise and heroic behavior on the part of political and business leaders. The evidence, however, if there be any, of sudden increase in wisdom and courage on the part of the nation's political and industrial leadership is, so far, pretty effectively concealed.

The outlook could, indeed, be rather grim except for the fact that—with a presidential election in the offing, and government spending and government controls now so powerful a factor in the nation's economic activity—the politicians can be depended upon to use the plentiful hypodermics at their disposal to give the patient the appearance of healthful vigor, if he should suffer much of a set-back. It may, therefore, be confidently predicted that—barring warfare on this continent or the exhaustion of federal borrowing power—there is not going to be, at least for a while yet, a deep or prolonged depression. There is already in sight sufficient increase in defense expenditures during 1952 to offset any probable decline in outlays by private individuals and businesses. There should not, therefore, be much of a decrease during 1952 in the total volume of goods produced and transported.

A Coercive Prosperity

Recognition needs constantly to be given, however, to the fundamental insecurity of a business, industrial, price and wage structure, based as largely as ours is on the maintenance of a gigantic and highly mechanized military establishment. The current level of expenditure which is supporting the present volume of industrial activity and the present level of wages and prices, is, very largely, not expenditure made by free people of their own volition, and in their economic self-interest. Instead, much of this outlay represents coercive exactions, tolerated only because people believe their physical safety is threatened.

Mr. Stalin and his colleagues, by their constantly menacing behavior, have been most considerate of the political and business interests in this country which wish to postpone indefinitely the painful adjustments that inevitably would follow the restoration of world peace. Since no early reform or collapse in the Kremlin can be foreseen, no deep or violent disturbance to our Kremlin-ordered "prosperity" is as yet discernable. There might, of course, be a few "air-pockets" in the course of production and the consequent volume of tonnage available for transportation—occasioned by inept allocations of scarce materials, labor disturbances, poor crops or political meddling. It takes a pretty lively imagination, however, to visualize any voluntary curtailment of the present outflow of basic commodities, as long as people identify their personal safety with high-level production, with little regard to cost.

The Basic Uncertainties

It may, then, be concluded that the external factors bearing on the probable volume of traffic available for movement in 1952—while not suggesting much increase—certainly offer no reason for alarm. Concern for the railroads' welfare does not, therefore, center in the probable level of 1952 industrial production, but in three other vastly more complex questions, namely:

1. At the current, or even a somewhat declining, level of traffic, what chance is there that the political power (not just the Interstate Commerce Commission, but state, local and legislative agencies as well) will cease its intolerable and irresponsible slowness in permitting railroad pricing to keep pace with the general price level? To what degree will it relax its coercive restraints which now prevent the railroads from the freedom of action which is essential to survival in the

competitive surroundings in which the railroads must now live?

2. Of available traffic, what ratio will the railroads get—will rival transportation agencies continue to expand their ratios at the railroads' expense?

3. For the "long pull," are the railroads adequately adjusting themselves to the permanently competitive nature of the transportation business—by critically examining their methods, and actively progressing the changes best calculated to promote prosperity in a regime of competition? For example, isn't there something basically wrong with a freight rate structure which allows a transportation agency with ton-mile costs three times those of the railroads to make constant inroads into railroad freight traffic? How much of this traffic erosion can be blamed, not on rates, but on service inadequacies which it would be economically feasible for the railroads to correct? How alertly and resolutely are the railroads discovering and turning to their own effective use the products of advanced progress in technology; and in improved methods in management, accounting, personnel, financing and merchandising?

In the answers to the three foregoing questions—and not in speculation regarding the volume of traffic available for movement in 1952—will be found the solution to the riddle of what lies in store for the railroads, not only in 1952, but in the years beyond. Satisfying answers to these questions are not going to be found in the external circumstances which surround the railroad industry—because these circumstances, if not vigorously and intelligently attacked, cannot be counted upon, of themselves, to change for the better.

Horse-and-Buggy Procedures

In other words, if the Interstate Commerce Commission and other regulatory agencies are left undisturbed in their dream-world of a by-gone day of railroad monopoly, they will continue to clutch their hoop-skirts and bustles; and will keep on driving Old Dobbin right square down the middle of the main thoroughfare at 2 miles an hour, completely oblivious of the motor traffic all around them; and of the planes overhead and the barges in the canal alongside. It will take more than a couple of firecrackers to wake these somnambulists up. Anybody knowing anything about transportation and the realities of present-day commercial life—and not suffering either from inherent bureaucratic resistance to innovation or selfish interest in supplying opiates to prolong bureaucratic slumber—could justly predict the early demise of the railroads as private industry, *provided* this regulatory attitude is not drastically and speedily modernized.

The unknown quantity in the job of forecasting the railroad future lies in determining the degree of intelligence and vigor which will be used in awakening regulatory comprehension to present-day realities, and to its responsibility to History to aid rather than circumvent the railroad industry in adjusting itself to these realities. Not just wishful thinking, but considerable observation as well, leads this paper to believe that the effort and brains put forth toward this goal in 1952 will exceed anything previously witnessed.

Such activity is absolutely fundamental—everything hinges on it. Whether the railroads should seek, first, to improve their regulatory situation or, instead, should concentrate on internal betterment, is *not* just another question of whether the chicken or the egg comes first. There isn't any use staying in the poultry business at all if the foxes and other vermin, or the neighbors, are going to make off with the chicks as fast as they can be hatched. The disease from which, with few exceptions, the railroads are suffering is their unattractiveness to investment capital. History shows that dependable investment of new capital follows—not precedes—the establishment of conditions which offer reasonable security for such investments from predatory attack. The losses railroad investors have sustained and are continuing to sustain from regulatory denial of their natural right to adjust themselves to changes in their environment are just as injurious—although carried out under the letter but not the spirit of law—as if they were the depredations of armed bandits.

Responsibility of Management

Of the three crucial questions set forth above, and on which the fate of the railroad industry depends, it therefore appears quite evident that the first two of them will be answered by the vigor with which railroad management addresses itself to the task of persuading the regulators, and the legislators who control the regulators, to adapt regulation to 1952 conditions. In other words, the railroads can be depended upon to register great and immediate progress in retaining traffic and in achieving earnings which will once again attract investors, provided they first can induce measurable progress in the modernization of regulation (including, of course, greater equality among all forms of transportation in such regulation as is retained).

The railroads cannot, single-handed, expect to get very far toward this primary goal. They must have recruits—many more than they have yet signed up. To get these recruits, they must persuasively interpret the goals necessary to their survival in terms of the self-interest of shippers, farmers, labor, educators—and, even, of their transportation rivals. Everybody around the railroads, especially suppliers, has a vital part to play in this effort.

To be more specific, by way of a close-to-home example: This paper, as its readers are aware, is devoting one of its issues each month to publicizing definite worth-while advances in improved freight service which the railroads are making, collectively and individually; and these issues are being distributed each month among thousands of influential shippers, where the reception has been highly encouraging. We believe that with these

issues we are making an appreciable contribution, not only toward getting shippers "railroad-minded," but helping railroad men from all departments to become more "traffic-minded"—this latter goal being immensely strengthened by the cooperation of the railroads and railroad men in a large increase (over 100 per cent) in subscribers to this paper on the railroads. Absolutely, this instance is, perhaps, not of great magnitude. We mention it, not to pat ourselves on the back, nor to imply an altruism which we by no means profess, but to prove our good faith by taking a substantial dose of our own medicine, by practicing what we preach. Emulation and encouragement of this kind of effort, in proportion to ability, on the part of all suppliers would vastly and quickly change the outlook for the railroads, greatly to the benefit of all participants.

As for the third and last of the foregoing questions—whether the railroads are making and will make the internal adjustments and improvements necessary to adapt themselves to their new environment—there might be prolonged and timely discussion. All there is space to say here—and quite likely it's enough—is, if railroad management develops the skill and devotion which will "win friends and influence people" sufficiently to bring about a modern and workable regulatory environment, then those same managerial virtues will go a long way toward insuring the adoption of the needed internal improvement in methods and organization.

Forecasting the future of the railroads, thus, by process of elimination, gets down out of the realm of economic and statistical analysis and boils down to the simple question of whether railroad management has the energy, intelligence and devotion requisite to lick the problems confronting it—problems which are no longer hazy in outline, but have become quite well defined and generally recognized. If the staff of this paper were not convinced that railroad management has these qualities and is prepared to exercise them to the full, we'd close up shop and seek places on the federal payroll without further delay—because that's where all Americans are going to wind up anyhow, if the railroads are permitted to go under.

THE LONG ISLAND ISSUES GET DRAWN MORE SHARPLY

A year ago in this space attention was called to the situation of the Long Island Rail Road—not as a local problem, but as an acute case of a disease which is general throughout the railroad industry. As 1952 begins, this railroad is back in the news spotlight again—for reasons which continue to be of nationwide significance.

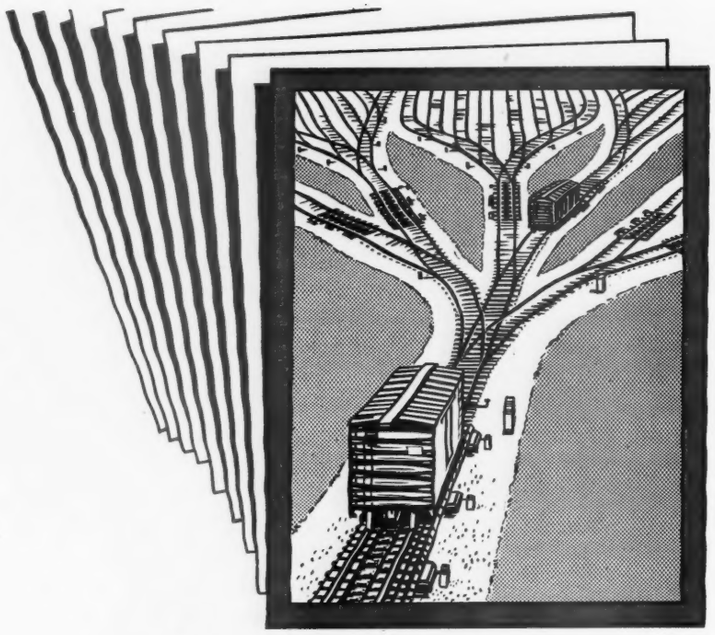
The Long Island went broke from three causes, viz.: (1) loss of local freight traffic and much of its full-rate passenger traffic to the competition of tax-supported and tax-exempt express highways; (2) persistent refusal of the state public service commission to establish commuter fares at compensatory levels; and (3) constantly mounting property taxation. Every other railroad in the United States would be broke, too, from these same causes, except that most of them are not in the commuter business; and the rest of them that do carry commuters have a lot more long-haul freight business than the Long Island has, from which to recoup their losses on commuter traffic.

The Long Island's plight was forced upon public attention only after it suffered two disastrously fatal accidents. Legislation was enacted establishing a "Long Island Transit Authority" which was directed to facilitate the road's reorganization under public or private ownership, preferably the latter. Recently, the debtor company filed a bold plan of reorganization (discussed editorially in our December 10, 1951, issue) which promises to make the property self-sufficient and reasonably remunerative, provided (a) property taxes be drastically curtailed; (b) the public service commission be forbidden to limit commuter fares as long as operations are not unduly profitable; and (c) management be permitted to abandon hopelessly unprofitable services.

The state's Transit Authority has now come out in opposition to the debtor's reorganization plan because of the belief that it would be "illegal" thus to curtail the state's power to regulate and tax a private corporation to the point of destruction. Instead, the authority suggests that freedom from oppressive regulation and taxation can be more appropriately achieved by state ownership of the property, which might then be turned over to a private company for operation. In suggesting state acquisition of the railroad, the authority evidently expects to get a bargain, because it contends that "earning power is the principal legal test" of value. The argument seems to be that, the state having destroyed the earning power of the property, it should as a consequence now be privileged to buy the railroad cheap.

On one point, at least, there seems to be general agreement—nobody wants the railroad to be both owned and operated by the state. The main questions at issue appear to be taking some such form as these: (1) Is it necessary to socialize the ownership of a railroad in order to relieve it from destructive regulation and taxation and, if so, why?; and (2), if a property is to go into socialized ownership, should the purchaser have a right to buy it at a valuation based on vanished earning power—a condition not inherent in the property itself, but brought on entirely by oppressive action on the part of the intending purchaser?

The argument on these questions should be most instructive, and the eventual outcome will doubtless set precedents of the greatest importance to the future of the railroad industry—not just in New York state, but all over the nation.



A Review of RAILWAY OPERATIONS in 1951

By J. H. PARMELEE

Vice-President and Director
Bureau of Railway Economics
Association of American Railroads

Our national situation was dominated in 1951 by both international and domestic developments. Abroad, we continued our participation in the war in Korea, supplied economic and military assistance to friendly nations and tried to abate serious tensions in our international relations. At home, we intensified our defense program, in the face of inflation, labor difficulties, corruption in government, and other economic and political problems. All in all, the year was one of solemn purpose and sober thought. Barring unforeseen improvement (or deterioration) in the international situation, the same general patterns of activity seem likely to continue into 1952, and perhaps for some time thereafter.

Railroads occupy a key position in the national and defense economy; they constitute the basic, and by far the most important, element in our transportation system. Rail transportation provides an essential facilitating service without which the economy could hardly function. Adequate preparations for defense, or for large-scale military operations, would be wholly impossible without it.

Developments in the rail industry in 1951 were characterized by earnest endeavors to fulfill the obligation of preparing to meet all requirements for adequate service, of whatever nature and however great.

Two principal problems faced the railroads during the year as they pressed forward to further expand and improve their physical plant, and raise operating efficiency to even higher levels. One was inability to obtain allocations of sufficient quantities of scarce materials, notably steel, needed for new equipment such as freight cars and locomotives; the other was a shrinkage in the financial resources available for financing the improvement program, caused largely by continuance of inadequate earnings.

Despite these difficulties, gross capital expenditures for

additions and betterments in 1951 reached an all-time high of approximately $1,400 million. Similar expenditures in the preceding five years (1946-1950) averaged slightly more than a billion dollars a year.

The severest handicap to the equipment replacement program was inability to get deliveries of new freight cars and locomotives, more particularly freight cars. A goal of 10,000 new freight cars per month was considered necessary by the railroads, but actual deliveries in 1951 fell far behind that average. The deficiency stemmed from lack of sufficient steel, which in turn was due to failure of government authorities to channel the necessary tonnage into railroad and equipment manufacturers' shops.

Comparison with 1950

The financial situation of the industry can be quickly brought into focus by comparing the traffic and earnings results of 1951 operations with those for 1950. Comparing 1951 with 1950, the percentage changes are as follows:

Per Cent Change, 1951 vs. 1950

		Per cent change
Revenue ton-miles	I	9.3
Revenue passenger-miles	I	8.3
Total operating revenues	I	9.3
Total operating expenses	I	13.8
Net railway operating income	D	13.2
Net income	D	20.3

Traffic was up—both freight and passenger; operating revenues increased, but operating expenses increased at a greater rate. This led to the net result of substantial declines in both net railway operating income and net income.

The rate of return on net investment in 1951 is estimated at 3.54 per cent, compared with 4.23 per cent in 1950. The low level of earnings that has been experienced over the whole postwar period, since 1945, thus continued through 1951.

Co-existence of a large-scale and costly improvement program and low net earnings has exercised strong pressure on railroad financial resources—both cash and credit. Financial ability to pay is, of course, the very heart of any continued improvement project. The effect of these diverse trends—capital expenditures up, and net earnings down—may be measured by certain changes that have recently taken place in the railroads' financial position. For example, their net working capital, which had already been reduced from $1,659 million at the close of the war (December 31, 1945) to $806 million on December 31, 1950, suffered a further sharp reduction in 1951 to $473 million on September 30. Meanwhile, outstanding equipment obligations—the life blood of equipment purchase financing—have almost tripled in amount since the war, from $773 million at the end of 1945 to approximately $2,270 million at the end of 1951, an all-time record. It is clear that little, if any, funds remain in the form of working capital to be drawn upon for capital expenditures and other corporate requirements. Nor is the field of financing by new equipment obligations an unlimited one.

Summarizing the results of railroad operation in 1951, freight and passenger traffic both showed increases. Operating revenues, which for the first time in American railway history passed the 10-billion-dollar mark, were more than paced by operating expenses, which also broke all previous records. Net earnings, however, especially when measured in terms of a rate of return, were far from record proportions. A rate of return of some 3½ per cent can hardly be deemed adequate.

A YEAR CROWDED WITH EVENTS

The year was crowded with events. In the legislative field, a number of acts were passed, such as the tax act, the union shop act, and amendments to the Railroad Retirement Act.

In the field of labor relations, railroads were in constant negotiation with various labor organizations, arriving at some agreements, and failing to arrive at others. A new wage policy, extended to virtually all branches of personnel in 1951, was that of adjusting hourly wage rates every three months to increases or decreases in the cost-of-living index of the U. S. Department of Labor. The operation of this policy added $215 million to the railroad payroll (annual basis), because of the upward movement of the cost-of-living index in 1951, and will cost the railroads another $120 million in 1952.

Railroads were active during 1951 in the field of rate and fare adjustments. These included two moderate increases in freight rates, totaling 6.6 per cent, authorized by the Interstate Commerce Commission in the Ex Parte 175 proceedings; an increase in mail pay rates, added to those authorized by the commission in 1947 and 1950; a number of localized passenger-fare adjustments, and collateral increases in Pullman fares and express rates. Another round of hearings in Ex Parte 175 is scheduled for January 14, in which the railroads are seeking authority to obtain the full increase in freight rates, averaging 14.3 per cent, for which they applied in March, 1951.

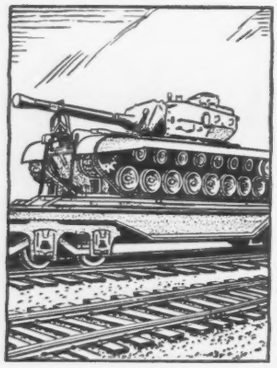
UPWARD TRAFFIC TRENDS CONTINUED IN 1951

Table 1 shows comparative statistics of freight and passenger traffic for each year from 1942 to 1951, the figures for 1951 being partially estimated.

Freight traffic volume for the year 1951 ran above that of 1950, totals for the year indicating increases of 4.6 per cent in carloadings and 9.3 per cent in ton-miles. The downward trend in passenger traffic since 1944 was halted, passenger-miles for 1951 showing an increase of 8.3 per cent over 1950.

Table 1—Comparative Traffic Summary

Revenue Carloadings (thousands)			
1951	40,497	1946	41,341
1950	38,903	1945	41,918
1949	35,911	1944	43,408
1948	42,719	1943	42,440
1947	44,502	1942	42,771
Revenue Ton-miles (millions)			
1951	643,400	1946	591,982
1950	588,578	1945	681,001
1949	526,500	1944	737,246
1948	637,917	1943	727,075
1947	654,728	1942	637,984
Revenue Passenger-miles (millions)			
1951	34,400	1946	64,673
1950	31,760	1945	91,717
1949	35,095	1944	95,549
1948	41,179	1943	87,820
1947	45,921	1942	53,659



Revenue Carloadings. Loadings of revenue freight in 1951 aggregated 40.5 million cars, an increase of 1.6 million over 1950, or 4.1 per cent.

Loadings for each of the eight commodity groups are shown in Table 2, together with the increase or decrease compared with 1950. Seven of the eight commodity groups increased. Ore showed the greatest rate of increase over 1950, 18.8 per cent. Coke loadings increased 15.1 per cent and forest products increased 6.2 per cent. The miscellaneous group, mostly manufactured products, increased nearly 900,000 cars, or 4.7 per cent. In terms of cars, this group showed the greatest increase of all groups. Loadings of merchandise l.c.l. decreased by over 400,000 cars, or 9.4 per cent.

Table 2—Carloadings by Commodity Groups

	1951 (000)	Increase over 1950 Number (000)	Per cent
Ore	3,004	475	18.8
Coke	837	110	15.1
Forest products	2,363	137	6.2
Grain	2,588	122	5.0
Miscellaneous	19,839	884	4.7
Coal	7,503	263	3.6
Livestock	497	6	1.3
L.C.L.	3,866	d403	d 9.4
Total	40,497	1,594	4.1

d = decrease

Revenue Ton-miles. Freight traffic, measured in ton-miles, is estimated at 643.4 billion for 1951. This was an increase of 55 billion over 1950, or 9.3 per cent. The volume of freight was greater in 1951 than that of any of the six postwar years except 1947, and fell only 1.7 per cent short of 1947. It was greater than in any year prior to 1943, and exceeded the prewar peak attained in 1929 by 44 per cent.

Revenue Passenger-miles. The postwar decline in passenger traffic was halted in 1951, passenger-miles for the year being 34.4 billion, an increase of 8.3 per cent over 1950. The upturn actually started in October 1950, but was not sufficient to offset the decreases experienced in the first nine months of that year. Passenger traffic volume for 1951 exceeded that of 1940 by 45 per cent, and was greater than in 1929 by 11 per cent.

Monthly and Quarterly Trends. Tenseness in the international situation, coupled with our mobilization program, continue to influence both freight and passenger traffic volumes. Returns for 1951, partially estimated for the last three months, indicate increases in passenger miles in every month of the year, but a slight reduction in the last three months of the year for ton-miles. The monthly ton-mile trends, years 1949 to 1951, are traced on Chart A.

Passenger-miles increased in each of the first nine months of 1951, through September, and for the final three months are estimated as exceeding those of the corresponding months of 1950. Not until September, however, did passenger traffic surpass the corresponding monthly volumes for 1949. Passenger-mile trends for the years 1949 to 1951, by months, are traced on Chart B.

Because of Korea, railroad traffic in the second half of 1950 was relatively much greater than in the first half of that year. When we come to a comparison of 1951 with 1950, therefore, the increases experienced in the first half of 1951 were almost certain to be greater than those of the second half. This was anticipated, and proved to be the case, as is disclosed by an examination of both Charts A and B. It is even more clearly shown when the two years are compared on a quarterly, rather than monthly, basis. Combining the several months into quarters, the percentage increase for each quarter, 1951 compared with 1950, is shown below for both freight and passenger traffic.

Quarter	Per Cent Increase, 1951 vs. 1950 Ton-miles	Passenger-miles
1st.	28.3	12.3
2nd.	13.7	12.2
3rd.	1.6	4.6
4th.	d 1.1	5.2
Year	9.3	8.3

d = decrease

FINANCIAL RESULTS LESS THAN SATISFACTORY

Railroad revenues, expenses and taxes increased during the year 1951, but net earnings declined. The increase in operating expenses was relatively greater than the increase in operating revenues.

Financial results for 1951 are available, based upon estimates submitted by the railroads to the Interstate

CHART A

REVENUE TON-MILES

RAILWAYS OF CLASS I
1949-1951, BY MONTHS

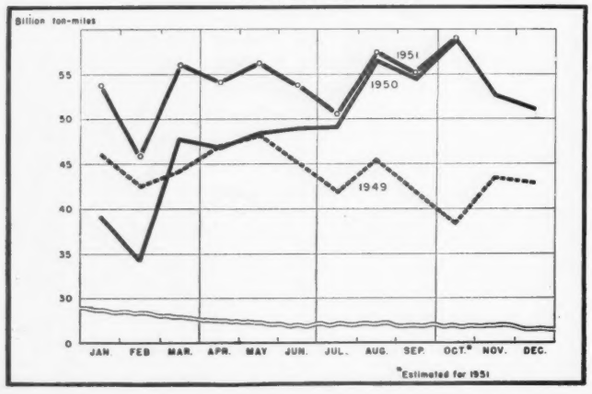
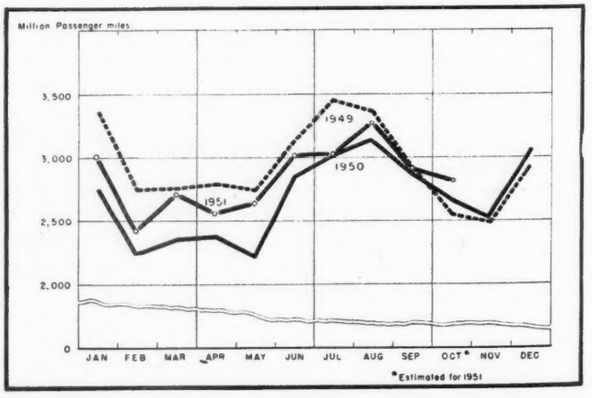


CHART B

REVENUE PASSENGER-MILES

RAILWAYS OF CLASS I
1949-1951 BY MONTHS



Commerce Commission on December 20, 1951, in preparation for the resumed hearings in Ex Parte 175, set for January 14, 1952. Those estimates were made prior to the amortization order of the commission, announced on December 21, and are subject to some revision as a result of that order. The estimates for 1951, and actual returns for 1950 and 1949, are included in the following four tables of significant income account items. Table 3 is the condensed income account.

Table 3—Condensed Income Account

	1951 (millions)	1950 (millions)	1949 (millions)
Total operating revenues	$10,355	[a]$9,473	$8,580
Total operating expenses	8,034	7,059	6,892
Operating ratio (per cent)	77.6	74.5	80.3
Taxes	1,216	1,195	832
Net railway operating income	903	1,040	686
Rate earned (per cent)	3.54	4.23	2.86
Net income after charges	625	784	438

[a]Includes $107 million of back mail pay applicable to prior years.

Operating revenues for 1951 increased 9.3 per cent over 1950. This was due principally to increases in both freight and passenger traffic, and to increased freight rates.

Operating expenses increased 13.8 per cent for the year, due not only to increases in material and fuel prices, and in wage rates, but also to increased volume of traffic.

The greater relative increase in expenses than in revenues led to a higher operating ratio in 1951—77.6 per cent, compared with 74.5 per cent in 1950.

Net railway operating income showed a decrease of 13.2 per cent, from $1,040 million in 1950 to $903 million in 1951. This substantial drop reduced the rate of return on net investment from 4.23 per cent in 1950 to 3.54 per cent in 1951. Without the back mail pay accrued in 1950 (see footnote to Table 3) the net for that year would have been $973 million. The estimated net for 1951 is below such an adjusted figure for 1950 by $70 million.

In brief, an increase of nine per cent in gross revenues in 1951 failed by a substantial margin to maintain net earnings at the same level as in 1950.

Table 4 shows the five general operating revenue accounts for 1949, 1950 and 1951.

Table 4—Operating Revenues

	1951 (millions)	1950 (millions)	1949 (millions)
Freight	$ 8,617	$7,817	$7,048
Passenger	895	813	861
Mail	323	[a] 374	223
Express	82	82	79
All other	438	387	369
Total	$10,355	[a]$9,473	$8,580

[a]Includes $107 million of back mail pay applicable to prior years.

Each of the five general revenue accounts excepting express, which remained the same, showed an increase in 1951.

Freight revenue increased 10.2 per cent, due both to increased traffic handled and moderately higher freight rates in effect from April on.

Passenger revenue increased 10.0 per cent, largely due to the greater volume of passenger traffic. The upward adjustment of ten per cent in basic rates for passengers in Southern territory, effective November 1, was of secondary effect.

Mail revenue amounted to $323 million in 1951. In comparing this total with 1950, the back mail pay of $107 million accrued in 1950 should be eleminated. On the basis of such elimination, mail revenue for 1951 showed an increase over the comparable figure for 1950 of $56 million, or 21 per cent. This increase is wholly accounted for by the further increase in mail pay rates authorized by the commission in November (see section on Rates and Fares).

Table 5 summarizes railroad operating expenses, by general accounts.

All of the principal expense accounts for 1951 showed increases. Maintenance of way expenditures increased $182 million, maintenance of equipment expenditures $260 million, and transportation expenses $464 million. The relative increases in these three principal expense accounts ran close to each other, ranging from 13 to 15 per cent. Total operating expenses increased 13.8 per cent.

Table 5—Operating Expenses

	1951 (millions)	1950 (millions)	1949 (millions)
Maintenance of Way	$1,469	$1,287	$1,284
Maintenance of Equipment	1,968	1,708	1,607
Transportation	3,955	3,491	3,416
Traffic, general & all other	642	573	585
Total	$8,034	$7,059	$6,892

Table 6, the final table in the income series, shows the rate of return on net investment. The rate is shown for each year from 1941 to 1951.

Table 6—Rate of Return

Year	Net railway operating income (millions)	Rate of return on investment after depreciation[a]
1951	$ 903	3.54%
1950[b]	1,040	4.23
1949	686	2.86
1948	1,002	4.24
1947	781	3.41
1946	620	2.75
1945	852	3.77
1944	1,106	4.73
1943	1,360	5.75
1942	1,485	6.34
1941	998	4.28

[a]Investment in road and equipment (less accrued depreciation and amortization), plus cash and material and supply inventories.
[b]Includes the effect of $107 million of back mail pay accrued in 1950, but applicable to prior years.

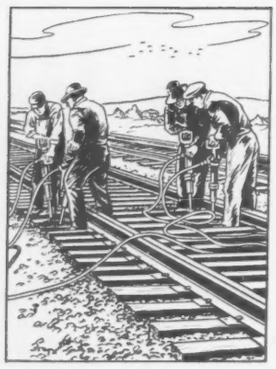
Table 6 supplies an informative comparison between wartime and postwar rates of return. During the war period, 1941 to 1945, the rate ranged from 3.77 per cent to 6.34 per cent, the average for that 5-year period being 4.99 per cent. During the postwar period, 1946 to 1951, the rate ranged within lower limits from 2.75 per cent to 4.24 per cent, the average for that 6-year period being 3.51 per cent.

UNREST CONTINUED IN WAGE AND LABOR SITUATION

Railroad employment in 1951 averaged about 1,277,000 persons, some 57,000 more than in 1950 and 85,000 more than in 1949.

The railroad payroll in 1951 approximated $5,215 million, compared with $4,594 million in 1950 and $4,419 million in 1949.

Table 7 shows, for each year from 1941 to 1951, the



average number of railroad employees, total payroll, annual earnings per employee, and straight-time rate of pay per hour.

Railroad employees averaged earnings of $4,084 per man in 1951, 8.5 per cent above the 1950 figure of $3,764. The average for 1951 was 50 per cent higher than the wartime peak of $2,727 in 1944, and more than double the prewar level of $1,913 in 1940. Their wage rate of 170.6 cents per hour was greater than in 1950 by 8.7 per cent, greater than in 1944 by 83 per cent, and 2-1/3 times as great as in 1940. Both annual and hourly compensation averages set all-time records in 1951.

Table 7—Employees and Their Compensation

Year	Average number	Total payroll (millions)	Average annual earnings of employees	Average straight-time rate per hour (cents)
1951	1,277,000	$5,215	$4,084	*170.6
1950	1,220,401	4,594	3,764	156.9
1949	1,192,019	4,419	3,707	144.1
1948	1,326,597	4,769	3,595	131.3
1947	1,351,863	4,352	3,219	117.5
1946	1,359,263	4,171	3,068	111.7
1945	1,419,505	3,862	2,721	93.3
1944	1,414,776	3,858	2,727	93.0
1943	1,355,114	3,521	2,598	89.3
1942	1,270,687	2,932	2,307	83.5
1941	1,139,925	2,332	2,045	76.9

*First 9 months of 1951

The average straight-time rate per hour of 170.6 cents, first 9 months of 1951, reflects various wage rate increases and cost-of-living adjustments made during that period, as well as interim increases granted by the Army to employees represented by the conductors', engineers' and firemen's brotherhoods, which have not yet signed agreements embodying the pattern settlement for the industry. When settlement with these employees has been consummated, the average straight-time hourly rate will approximate 177.0 cents per hour.

The year 1951 marked the application of quarterly cost-of-living (escalation) wage adjustment provisions to the majority of railroad employees. Wage agreements on March 1, covering about one million non-operating employees, and on May 25, covering some 135,000 trainmen, contained such provisions. The switchmen's and yardmasters' agreements signed late in 1950, and the Memorandum of Agreement of December 21, 1950, with four operating organizations, had contained similar provisions, thereby setting the pattern that was applied in 1951 to the great majority of railroad employees.

The escalation clauses provide that for every change of one point in the U. S. Bureau of Labor Statistics' Consumers' Price Index (cost-of-living index, old series), compared with an agreed-upon base, wage rates will be adjusted one cent per hour. The wage adjustments may be up or down, according to the trend in cost of living, but may not go below basic wage rates. The changes to date have all been upward. Non-operating employees and the trainmen received escalation increases in their wage rates of six cents per hour, effective April 1, 1951, and an additional one cent, effective July 1. No adjustment was made on October 1, because the cost-of-living index held steady, but a further increase of four cents per hour was added on January 1, 1952. As each increase of one cent adds $30 million to the annual railroad payroll, the increase on January 1 meant a payroll increase of $120 million for 1952, which was not experienced in 1951.

All the 1951 wage settlements contained a moratorium on proposals for changes in rates of pay until October 1, 1953. At the same time, they provided that if, as a result of government wage stabilization rulings, workers generally are permitted to receive so-called annual improvement increases, the question of basic wage rates may be reopened after July 1, 1952. Settlements with the operating group also included a moratorium on changes in rules or working conditions to October 1, 1953.

The Union Shop Law

One important new demand was served on the railroads in 1951, which was added to a number of unsettled demands brought over from 1950. Congress amended the Railway Labor Act so as to permit the establishment of a union shop and check-off of union dues. This legislation, which is permissive but *not* compulsory, was approved January 10, 1951.

Seventeen cooperating unions of non-operating employees served notices on or about February 5, 1951, indicating their desire to negotiate union shop agreements. Negotiations on individual properties not having resulted in agreements, mediation was invoked by the organizations. Following such invocation, agreements were made on a few roads, but because of failure to secure agreements with the great majority of railroads, concurrent mediation on those railroads was undertaken by the National Mediation Board, beginning October 3. The carriers took the position that union shop negotiations should be conducted on individual properties, and not on a national basis. Mediation proceedings were ended October 25, and on November 15 the President appointed an "emergency board" to investigate and report on the dispute. At hearings in Washington, December 11 through December 17, the unions presented their evidence. Hearings were resumed on January 8, for presentation of railroad evidence.

The operating unions also served notices of their desire to negotiate union shop agreements on individual roads, but did not seek to negotiate on a national basis.

Operating Groups. At the beginning of 1951, the demands of the engineers, firemen, conductors, and trainmen, which presumably had been settled by the Memorandum of Agreement signed December 21, 1950, at the White House, were still unsettled, inasmuch as the organizations, after signing the Memorandum of Agreement, attempted to repudiate it.

On February 8, 1951, following so-called "wildcat strikes" by trainmen in yards in large rail centers throughout the country, the Department of the Army (Operation of the Railroads) issued General Order Number 2, which directed the striking employees to return to work by 4:00 p.m., February 10, 1951, and to continue to work when called or be subect to dismissal. This ended the strikes.

General Order Number 2 also put into effect an interim increase of 12½ cents per hour for yardmen and 5 cents per hour for roadmen, retroactive to October 1, 1950. These increases were exactly one-half of the increases provided by the White House Memorandum of Agreement.

Non-operating Groups. In the meantime, the October 25, 1950, demands of 15 cooperating unions of non-operating employees for a fourth-round postwar wage

increase of 25 cents per hour were negotiated on a national level from January 9 until March 1, 1951. The agreement then reached, mediated by Dr. John R. Steelman, provided for a basic wage increase of 12½ cents per hour, effective February 1, 1951, and the cost-of-living escalation provision already described, measured in the case of this agreement from an arbitrary starting cost-of-living index of 178.0 (old series). The agreement with the non-operating employees was consistent with the settlement pattern established in 1950 with the Yardmasters and Switchmen's Unions, and with the White House Memorandum of Agreement of December 21, 1950.

In the case of the non-operating agreement, the April cost-of-living (escalation) adjustment, plus the basic wage rate change as of February 1, exceeded the 10 per cent formula established by General Regulation No. 6 of the Wage Stabilization Board. Because of this situation, a special panel was appointed by the Economic Stabilization Administrator to study the problem and make recommendations. The panel held a hearing on April 13 and reported on April 25. It recommended approval of this and future escalation increases to the affected and related employees. Wage Adjustment Order No. 1 and Wage Stabilization Board Resolution No. 32 made the recommendation effective.

Settlement with Trainmen

Trainmen Agreement. While these events were in progress, the Senate Committee on Labor and Public Welfare conducted an investigation of what it referred to as "the labor dispute between the Class I carriers by rail and four labor organizations representing the operating employees of those carriers." These hearings extended from February 22 to April 5, and were concluded "subject to further call of the chairman."

During the course of the hearings, it was disclosed that the trainmen had broken away from the other three operating organizations in order to seek a separate settlement. An agreement with the trainmen was signed on May 25, 1951, based upon the White House Memorandum of Agreement of December 21, 1950. It received the approval of the Wage Stabilization Board on June 12.

Firemen. In the meantime, negotiations with representatives of the engineers, firemen and conductors continued. On June 6, the carriers offered the three organizations a "package settlement" based upon applicable provisions of the trainmen's agreement. On June 28, the three organizations advised that the "package settlement" was not acceptable. On July 11, 1951, at a press conference, President D. B. Robertson of the Brotherhood of Locomotive Firemen and Enginemen announced that if a settlement were not reached by July 15, a strike ballot would be taken. Such a strike ballot was distributed on July 31. Subsequently, a strike of firemen on four railroads was called for 3:00 p.m., November 8. The President created an emergency board (the Daugherty board) to inquire into the dispute, and make a recommendation for settlement.

The board opened hearings in Washington on November 27, and was immediately confronted by an exceedingly rare, if not unprecedented, situation. The attorney for the firemen in his opening statement said in part: "The employees cannot believe that the appointment of this board is a sincere effort to settle this dispute," and "we do not plan to be present further in the proceedings you have been appointed to continue." Upon completion of this statement, the representatives of the firemen left the hearing room. The carriers presented their side of the dispute to the board and the hearings were concluded on December 17. The board's report is due on January 15, 1952.

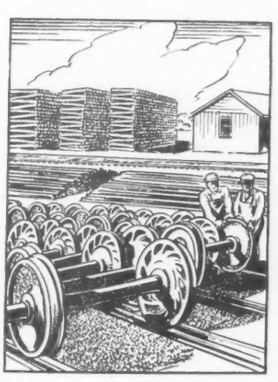
Engineers. While the hearings in connection with the firemen's dispute were being held by the Daugherty board, negotiations with the engineers continued. On November 29, the engineers' representatives requested the National Mediation Board to arrange for appointment of a presidential board to hear their dispute. Such a board had not been appointed by the end of the year. Negotiations with the conductors, on the other hand, were generally in abeyance.

Thus the disputes with the four operating organizations, which had apparently been settled in 1950, carried on into 1951 with only the trainmen consummating agreements.

Train Dispatchers. The November 6, 1950, demands of the American Train Dispatchers Association for increased wages and vacations were handled on a national level from March 12 to June 28, 1951, when an arbitration agreement was signed. Arbitration proceedings were held in Washington from July 23 to August 3. On August 13, the arbitration board, with the carriers' member dissenting, awarded the dispatchers a wage increase of $35.76 per month, retroactive to February 1, 1951, and a cost-of-living clause similar to those in the agreements with the non-operating and trainmen's organizations. The vacation requests were denied. Thus, as of July 1, dispatchers had their monthly pay increased $49.76, of which $14.00 represented cost-of-living increases.

The November 1, 1950, demands of the American Railway Supervisors Association were settled by negotiation on individual properties, generally in accord with the pattern set by the non-operating agreement.

STEADY RISE CONTINUED IN MATERIAL PRICES



The index of railroad material prices compiled by the Bureau of Railway Economics, using the period 1935-1939 as 100, is shown in Table 8 for various dates from December 1939 to October 1951.

The index rose sharply from 101.3 at the end of 1939 to the overall peak (230.1) attained in October 1951. The trend during the period was steadily upward from 1939 to December 1, 1948, when the index reached a level of 214.2. It then receded during the first nine months of 1949, to 195.9 on October 1, 1949, but has since shown a steady rise.

Prices showed a substantial increase in 1950, most of which took place subsequent to Korea. The index rose from 198.1 to 206.5, or 8.4 points, during the first half of that year, and rose further from 206.5 to 223.9, or 17.4 points, during the second half. The upward trend was less marked in 1951, but the cumulative rise from July 1, 1950 (when the Korean affair began) to October

Table 8—Railway Material Price Index (1935-1939=100)

	Material & supplies (other than fuel)	Fuel (coal & oil)	All material including fuel
December 1, 1939	103.2	97.5	101.3
December 1, 1945	132.8	142.3	135.9
December 1, 1947	178.5	214.5	190.1
December 1, 1948	202.0	234.1	214.2
July 1, 1949	192.9	204.7	197.4
January 1, 1950	195.9	201.9	198.1
July 1, 1950	200.8	215.7	206.5
January 1, 1951	225.1	222.0	223.9
April 1, 1951	228.4	228.0	228.2
July 1, 1951	229.5	230.6	229.9
October 1, 1951	229.8	230.6	230.1

1, 1951, was from 206.5 to 230.1, an increase of 23.6 points, or 11.4 per cent.

The all-material index as of October 1, 1951, was 2.8 per cent greater than on January 1, 1951, the fuel index was greater by 3.9 per cent, and the material and supply index (other than fuel) showed an increase of 2.1 per cent.

Prices are at all-time high levels today, with little indication of any early or appreciable reversal in the almost continuous upward trend since 1939. The all-material index increased from a prewar level of 101.3 at the end of 1939 to 135.9 at the close of the war in 1945. This was an increase of 34.6 points, or 34.2 per cent. From 1945 to 1951, however, the index rose from 135.9 to 230.1, an increase of 94.2 points, or 69.3 per cent. The cumulative increase for the 12-year war and postwar period, 1939 to 1951, exceeded 125 per cent.

INADEQUATE INCREASES IN RATES AND FARES

Further increases in wage rates and in material prices made it necessary for the railroads again, in 1951, to seek authority for additional important upward adjustments in rates, fares and other charges.

Freight Rates. The following developments in 1951, listed chronologically, outline the freight rate adjustments that resulted from Ex Parte 175 proceedings, which involved several extensive hearings.

1. On January 15, the Interstate Commerce Commission dismissed the petition of railroads in Official territory (filed December 1, 1950), for an increase of 4 per cent in all freight rates and charges. The following day, January 16, railroads in all territories (East, South, and West) petitioned the commission for a 6 per cent increase in freight rates and charges, with maximum and specific increases on certain commodities. The proceeding was docketed as Ex Parte 175, Increased Freight Rates, 1951.

2. On January 19, the railroads filed a motion to put the proposed increase into effect on an interim basis.

3. The commission, on March 12, authorized interim increases, on 15 days' notice, of 4 per cent in Eastern territory, and 2 per cent in Southern and Western territories and interterritorially, with certain maxima, pending further hearings in the case. The overall increase was estimated to average about 2.4 per cent. The new rates went into effect April 4, except that the grain rates became effective April 19.

4. Because of continuing increases in operating costs, the railroads again petitioned the commission on March 28, requesting a freight rate increase of 15 per cent, which would include the interim increases authorized by the commission on March 12, and would replace the carriers' request of January 16 for a general 6 per cent increase. With the usual provisions for certain maxima and exceptions, the proposed increase was calculated as averaging 14.3 per cent.

5. The commission on August 2 authorized the carriers to increase rates 9 per cent in the East, 6 per cent in the South and West, and 6 per cent interterritorially. The overall increase for the country as a whole, after giving effect to prescribed maxima and exceptions, was estimated by the commission at 6.6 per cent. The new rates, which are in place of, and not in addition to, the interim rates which went into effect April 4, are applied as surcharges, which will expire February 28, 1953, unless sooner modified or terminated. The new rates went into effect August 28, except those for grain which became effective September 12.

6. On October 19, the railroads requested further hearings in Ex Parte 175, and sought authority to put into effect the full amount of the freight rate increase sought on March 28, 1951 (15 per cent). It is estimated that such an authorization, if granted, would raise rates about 7.2 per cent above present levels, for the country as a whole. In an order dated December 3, the commission granted the carriers' petition, and subsequently set January 14, 1952, as the date for further hearings.

Effect of Ex Parte 175 Increase

The cumulative result of these developments in the freight rate situation was to increase revenues by approximately $575 million per year, based on the freight traffic level of 1951. This is approximately what the commission calculated, based on two assumptions: that the increase of 6.6 per cent had been in effect the whole year, and that it applied to all intrastate as well as interstate movements. Neither of these conditions, of course, prevailed. It is difficult to estimate what the railroads did realize in increased revenue in 1951, as a result of the increased rates, but the amount was considerably less than one-half of $575 million.

Passenger Fares. Reduced round-trip military furlough coach fares were placed in effect by all railroads on January 26, 1951. The rate was generally 2.025 cents per mile; in some territories, it was less. These reduced furlough fares are available to military personnel traveling in uniform at their own expense. They have been extended to June 30, 1952, with a return limit of three months.

Twenty-seven southern railroads filed a petition with the commission on May 28, seeking authority to increase basic passenger fares 10 per cent. Their proposal included an increase in the minimum one-way charge from 15 to 25 cents, round-trip fares to be 180 per cent of the increased one-way fares. The commission in October authorized the increase, and granted certain other relief sought. The increase, which became effective November 1, does not affect existing military furlough rates.

A commission order, made public July 12, authorized 32 passenger-carrying railroads in Eastern territory and connecting railroads, to file a 30-day notice proposing an increase in round-trip passenger fares in coaches and Pullmans for distances over 225 miles. The railroad proposal, filed June 11, 1951, provided that round-trip coach fares be made subject to a maximum reduction of 15 per cent below the double one-way fare, instead of the existing 24 per cent maximum reduction, and that round-trip first-class fares be made subject to a maximum reduction of 5 per cent instead of the existing maximum of 10 per cent. Although the Office of Price Stabilization and certain other groups opposed the proposed change, the commission declined to suspend the tariffs, and the higher round-trip fares became effective on August 20.

Pullman Rates. The Pullman Company filed a petition with the Interstate Commerce Commission on April

13 for authority to increase its sleeping and parlor car fares and charges by 15 per cent. The proposed increase would yield an estimated additional gross revenue of $16,743,000, based on the volume of traffic handled in 1950. A commission order providing authorization for filing the necessary tariffs was issued April 24. Although opposition was offered by various parties, the commission permitted the increase to become effective June 1.

Mail Pay. A supplemental report by the Interstate Commerce Commission in the mail-pay proceedings (Docket 9200), made public November 16, 1951, prescribed further increases in mail-pay rates. These increases, the commission estimated, will raise mail pay to the railroads about 31.5 per cent above the 1950 level. The prescribed rates were retroactive to January 1, 1951. Under the rate structure agreed upon between the railroads and the postmaster general, and approved by the commission, the space basis of pay is retained, but with a new system and scale of rates and charges. In the Docket 9200 proceedings, the railroads sought an increase of 95 per cent in mail pay rates that were in effect on February 19, 1947, the date on which the original application was filed. The commission in December 1947 authorized an interim increase of 25 per cent.

The railroads and the postmaster general signed an agreement in October 1950, specifying, among other things, the amount of additional pay due the carriers for transporting the mails from February 19, 1947, to December 31, 1950. This agreement, approved by the commission December 4, 1950, provided for an average increase in mail pay rates during the period of approximately 48 per cent over rates in effect prior to February 19, 1947.

If the commission's estimate of 31.5 per cent as the latest increase is correct, the cumulative increase in mail pay rates thus far authorized is about 95 per cent (148 per cent times 131.5 per cent equals 194.6 per cent).

Express Rates. On January 12, 1951, the Railway Express Agency petitioned the Interstate Commerce Commission for authority to increase its rates and charges and make other modifications in its rate structure. The matter was docketed as Ex Parte 177, and a hearing set for March 29. The agency filed a supplemental petition on March 9, asking the commission to grant an interim increase of 25 cents per shipment, with certain exceptions. On April 13, the commission granted an interim increase of 20 cents per shipment on all less carload shipments except newspapers, milk, cream and related products, and corpses. The increase was estimated to yield approximately $15,715,000 annually.

On October 23, the commission authorized a general increase in express rates and charges which superseded the interim increase of 20 cents per shipment, granted in April. Included in authorized increases were the following:

First-class rates and charges on shipments under 100 pounds, increased by 30 cents per shipment; 100 pounds and over by 30 cents per 100 pounds; multiples of first-class rates and charges by 30 cents per 100 pounds.

Second-class rates and charges increased to 75 per cent of the contemporaneous first-class rates and charges.

Third-class rates and charges increased from 1.75 cents for 2 ounces to 1 cent per ounce.

Minimum charges increased generally to $1.50 per shipment; minimum charges of $2.00 and over increased 25 per cent.

These increases became effective on November 15, 1951.

Railroads' Tariff Research Group. A research project, whose purpose is to study ways and means of simplifying and otherwise improving railroad tariffs, was announced August 3 by chairmen of the regional traffic associations of the railroads. The project, designated as the Railroads' Tariff Research Group, is an independent activity of the railroads. The chairman of the group is Charles S. Baxter, the two other members being George W. Lupton, Jr., and Harry F. Sutter. They will operate under direction of an administrative committee of twelve railroad traffic executives, headed by Fred Carpi, traffic vice-president of the Pennsylvania, and with the advice and counsel of a cooperating committee from the National Industrial Traffic League. The group is located in the Transportation Building at Washington.

COMPARISONS OF AVERAGE REVENUE PER UNIT OF TRAFFIC

Revenue per tonmile averaged 1.324 cents for the first nine months of 1951, and revenue per passenger-mile 2.589 cents. Table 9 shows the averages for 1921, which were the prewar highs, for each year from 1941 to 1950, and for nine months of 1951.

The ton-mile average for the first nine months of 1951, despite moderately higher freight rates effective throughout part of that period, was slightly below the average for the year 1950. This was due largely to heavier movements of coal and ore, commodities handled at comparatively low rates per ton-mile, and to a moderate increase in average length of haul. Rate adjustments on other products, especially reduced quotations on government traffic, also contributed. The average for the year 1951, when it becomes available, will reflect the latest increase in freight rates, which did not become fully effective until mid-September.

Table 9—Revenue per Unit of Traffic

Year	Per ton-mile (cents)	Per passenger-mile (cents)
1951 (9 mos.)	1.324	2.589
1950	1.329	2.561
1949	1.339	2.452
1948	1.251	2.341
1947	1.076	2.097
1946	0.978	1.947
1945	0.959	1.871
1944	0.949	1.874
1943	0.933	1.882
1942	0.932	1.916
1941	0.935	1.753
1921	1.275	3.086

Average revenue per passenger-mile for 1951 was slightly higher than that for 1950. It was, however, lower than in any of the years 1920 to 1930, inclusive.

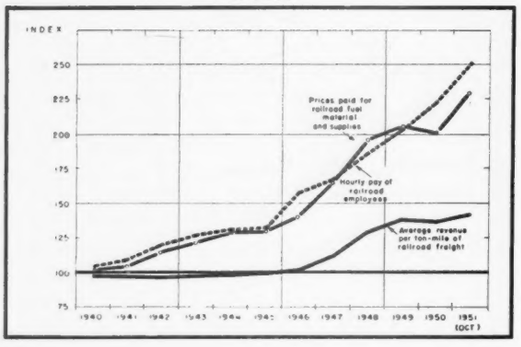
The 1951 average was affected to a moderate degree by an increase in commutation fares for Eastern territory railroads effective in April. The ten per cent increase in basic passenger fares, authorized for most of the railroads in the South, became effective on November 1, 1951, and is not reflected in the average shown in Table 9 for the first nine months.

Chart C brings together, in graphic form, a comparison from 1940 to 1951 of the trends in hourly wage rates, the railroad price index, and average revenue per

CHART C

TRENDS IN RAILROAD EMPLOYEES' HOURLY RATE OF PAY, PRICES OF RAILROAD MATERIALS, AND RAILROAD REVENUE PER TON-MILE OF FREIGHT

RAILWAY OF CLASS I
1935-1939=100



ton-mile. The chart clearly shows the growing spread between the lower or revenue curve and the two upper or cost curves.

The sharp upward rise in the wage and price curves in 1951, contrasted with the moderate rise in the ton-mile revenue curve (to October), throws light on the reason for the renewed application made by the railroads for further increases in freight rates, in the Ex Parte 175 proceedings.

ALL-TIME RECORD CAPITAL EXPENDITURES AND PURCHASES

Table 10 shows gross capital expenditures of railways of Class I for additions and betterments, and for purchases of fuel, material and supplies, years 1942 to 1951.

Capital expenditures for 1951 are estimated at $1,413 million, the greatest amount ever expended by the railroads in a single year. They exceeded 1950 expenditures by $347 million, and were greater by $101 million than expenditures made in the previous record year 1949. Capital expenditures for the 10-year period 1942 to 1951 aggregated $8,603 million, an average of $860 million per year.

During the six postwar years, 1946 to 1951, capital expenditures have aggregated $6,491 million, an average of $1,082 million per year. In part, of course, the high average since the war is the result of much higher price levels, but it reflects also an extensive program of plant improvement.

About 75 per cent of the 1951 expenditures was allocated to equipment and 25 per cent to roadway and structures, indicating the continuing emphasis on new equipment, especially freight cars and diesel-electric locomotives.

Purchases of fuel, material and supplies in 1951 are estimated at $2,300 million, also a new high. This total was an increase of $560 million over the corresponding total for 1950, and an increase of $117 million over the previous record (1948).

Table 10—Capital Expenditures and Purchases

Year	Gross capital expenditures (thousands)	Purchases of fuel, material and supplies (thousands)
1951 (est.)	$1,413,000	$2,300,000
1950	1,065,842	1,739,908
1949	1,312,200	1,641,406
1948	1,273,484	2,183,331
1947	864,689	1,909,209
1946	561,957	1,570,555
1945	562,980	1,572,404
1944	560,112	1,610,529
1943	454,282	1,394,281
1942	534,897	1,259,811

MATERIAL SHORTAGES CURTAILED RAILWAY EQUIPMENT ADDITIONS

Table 11 shows railroad ownership of equipment at the end of each year from 1945 to 1950, and as of December 1, 1951. New equipment units on order at the end of each year or period are also shown, together with annual installations.

Table 11—Equipment Ownership and Installations

	Ownership at end of year	Installed during year	On order at end of year
Steam locomotives:			
1951 (Dec. 1)	21,857	*17	20
1950	25,265	12	16
1949	28,809	57	13
1948	32,613	86	72
1947	34,800	72	30
1946	37,255	83	64
1945	38,683	109	92
Diesel & electric locomotives:			
1951 (Dec. 1)	12,841	*2,349	1,789
1950	10,531	2,384	1,628
1949	8,169	1,808	885
1948	6,368	1,401	1,561
1947	4,964	771	1,196
1946	4,222	480	540
1945	3,730	534	379
Freight-Carrying cars: [a]			
1951 (Dec. 1)	1,748,311	*79,920	114,669
1950	1,717,659	42,067	114,240
1949	1,749,736	84,669	14,368
1948	1,754,840	102,737	89,437
1947	1,731,231	63,312	105,112
1946	1,739,930	40,377	63,829
1945	1,759,662	38,987	37,160

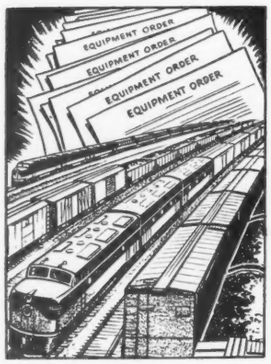
*11 months.
[a]Statistics showing freight cars installed and on order include railroad-owned private refrigerator lines, and are those of the Car Service Division, A. A. R.

Locomotives. During 1951, steam locomotive ownership continued to decline, whereas ownership of diesel-electric and electric locomotives (complete as operated) maintained the upward trend.

Since the end of 1945, shortly following the close of hostilities, the rise of the diesel has added a dramatic chapter to the long history of motive power progress on American railroads. From the end of 1945 to the end of 1951 (December 1), comprising the postwar period, ownership of steam locomotives has shown a net decrease of 16,826, but there has been a net increase of 9,111 in electric and diesel-electric locomotives. These figures are expressed in numbers, and do not take into account either the tractive power or the relative efficiency of the different types of motive power.

Locomotives on order as of December 1, 1951, totaled 1,809, of which 1,788 were diesel-electric. A total of 2,366 locomotives were installed during the first eleven months of 1951, a greater number than in any comparable period during the past 28 years.

The proportion of unserviceable locomotives (steam, electric and diesel) rose from 9.1 per cent on January



1 to a high of 9.6 per cent in March, April and May. From May 1 the trend turned slightly down, and the ratio stood at 8.9 per cent on December 1. The average unserviceable ratio for the first eleven months of 1951 was 9.3 per cent, compared with an average of 9.4 per cent for the year 1950.

Freight Cars. Installations of new freight cars during the first eleven months of 1951 totaled 79,920, including railroad-owned private refrigerator car lines. Installations for the year will approximate 88,000 compared with 42,067 cars for the year 1950.

Freight car ownership of the railroads on December 1, 1951, numbered 1,748,311 cars, an increase of 30,652 cars over ownership at the end of 1950. The trend was generally upward throughout the year, as new installations exceeded retirements of older and obsolete cars. This upward trend was due to the expanded freight car program (adopted by the railroads in July, 1950) which set as its goal an increase in ownership to 1,850,000 cars.

To reach this goal within a reasonable period, it was hoped to increase installations to an average of 10,000 per month. Such an average was not attained, either in 1950 or 1951. Steel allocations by the National Production Authority for freight car production have been gradually cut down, so that allocations for the third and fourth quarters were far below the quotas of 10,000 cars per month. For the first quarter of 1952 allocations were even less, and further reductions for the second quarter were under consideration by N.P.A. at the year-end.

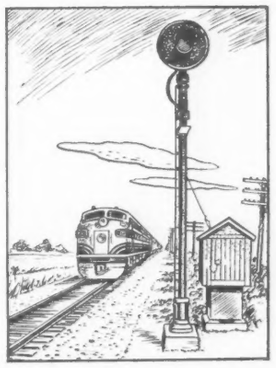
The program, however, has been strikingly translated into greatly increased car orders. Table 11 shows that nearly 115,000 new freight cars were on order on December 1, 1951, which was slightly greater than at the end of 1950, although some 80,000 new cars had been completed in the meantime and accordingly taken off the order books.

The July 1950 railroad program included intensified repair of bad-order equipment, especially freight cars, so as to bring the bad-order percentage down to or below five per cent of each type of car owned on each railroad. The proportion of unserviceable freight cars fluctuated in 1951 between a low of 4.8 per cent on April 1, and a high of 5.5 per cent on August 1. The ratio had been reduced again to 4.8 per cent on December 1. The average for the first eleven months of 1951 was 5.1 per cent, compared with an average of 6.9 per cent for the year 1950.

Freight car shortages continued throughout the year 1951, though the second half of the year showed great reductions in shortages, compared with the corresponding period of 1950. The demand for box cars was particularly heavy in the fall months, though no really critical situations developed. Gondolas were in heavy demand in all parts of the country and shortages for that type of car were fairly well distributed. The maximum daily shortage of freight cars was reported for the week of March 3, 1951, at 37,828 cars. This was reduced to 3,793 cars during the week of December 15. The maximum for 1950 was 39,477 cars, for the week of August 26.

Passenger Equipment. Ownership of passenger-train cars numbered 37,532 on June 30, 1951. This was a reduction of approximately 500 cars since the end of 1950. New passenger-train equipment of all types installed during the first six months of 1951 totaled 95 units, and there were 189 units on order as of July 1. This compared with 563 units on order a year earlier, on July 1, 1950.

CONSISTENT PROGRESS IN EFFICIENCY AND ECONOMY



The next four tables compare significant performance averages for the first nine months of 1951 with annual averages for the years 1941 to 1950.

Although traffic volumes were not so high in 1951 as in the war years, these averages set new records in nearly every case, indicating definite progress in operating efficiency.

Ton-miles per freight train-hour, combining both load and speed factors, is a very significant performance factor. The unit output per hour of freight train operation is computed on two bases: (1) gross ton-miles of cars and contents per freight train-hour, and (2) net ton-miles (lading only) per freight train-hour. Both averages are shown in Table 12. Those for the first nine months of 1951 show that new records for each of the two averages will be set for the year.

Table 12—Ton-miles per Freight Train-hour

Year	Gross ton-miles	Net ton-miles
1951 (9 mos.)	46,314	21,720
1950	44,353	20,344
1949	42,346	19,024
1948	39,903	18,778
1947	38,462	18,126
1946	37,057	17,173
1945	36,954	17,482
1944	37,298	17,623
1943	35,970	16,997
1942	35,503	16,132
1941	34,684	14,930

Table 13 shows daily mileage averages for locomotives and freight cars, 1941 to 1951.

Table 13—Daily Mileage of Locomotives and Freight Cars

Year	Active Freight locomotives	Active Passenger locomotives	Serviceable Freight cars
1951 (9 mos.)	121.6	245.2	46.0
1950	119.4	237.2	46.5
1949	112.5	228.5	42.9
1948	116.8	220.9	47.2
1947	120.3	219.0	48.8
1946	115.9	221.8	45.2
1945	118.4	226.9	49.3
1944	122.8	222.9	51.9
1943	124.5	220.9	51.0
1942	122.4	206.8	48.8
1941	116.4	195.6	43.7

Active freight locomotives during the first nine months of 1951 averaged 121.6 miles per day, 1.8 per cent above the year 1950, and only slightly below the wartime averages of 1942 to 1944. Active passenger locomotives averaged 245.2 miles per day, an increase of 3.4 per cent over 1950, and setting a new record.

Serviceable freight cars averaged 46.0 miles per day

during the first nine months of 1951. This was slightly below the average for the year 1950, but was above the average for the corresponding nine months of 1950.

Train speeds, which showed some reductions during the war, have since more than regained those reductions. Averages for the years 1941 to 1951 are set out in Table 14.

Table 14—Average Train Speed (m.p.h.)

Year	Freight trains	Passenger trains
1951 (9 mos.)	16.9	37.6
1950	16.8	37.4
1949	16.9	37.0
1948	16.2	36.7
1947	16.0	36.1
1946	16.0	35.5
1945	15.7	34.7
1944	15.7	34.8
1943	15.4	34.7
1942	15.8	35.7
1941	16.5	36.1

Average freight train speed during the first nine months of 1951 increased one-tenth of a mile over the year 1950. Passenger train speed increased two-tenths of a mile for the same period; if that average was maintained, a new record will be established in 1951.

Table 15 shows average load per car and per train, for both freight and passenger services, for the years 1941 to 1951. Average load per train and per car in freight service increased during the first nine months of 1951, compared with the year 1950. In passenger service, average occupancy per train and per car both increased during the first nine months of 1951.

Table 15—Average Train and Car Loads

Year	Freight Service Net tons per train	Freight Service Net tons per car	Passenger Service Passengers Per train	Passenger Service Passengers per car
1951 (9 mos.)	1,299	32.8	97.6	17.9
1950	1,224	31.7	88.6	17.0
1949	1,138	31.4	92.3	18.1
1948	1,176	32.9	101.1	19.4
1947	1,146	32.6	110.7	21.0
1946	1,086	31.3	144.3	24.5
1945	1,129	32.2	190.5	30.2
1944	1,139	32.7	200.7	31.9
1943	1,116	33.3	189.5	31.1
1942	1,035	31.8	125.5	23.1
1941	915	28.5	73.2	15.8

In freight service, average load per train during the first nine months of 1951 increased 75 tons, or 6.1 per cent, over the average for the year 1950. This average, if maintained for the balance of 1951, will produce a new annual record. Average load per freight car increased 3.5 per cent—slightly more than one ton.

Safety. Based on statistics for the first ten months of 1951, railroad employees experienced another good year, though casualty frequency rates increased slightly compared with 1950.

Despite the rapidly increasing number of motor vehicles on the highways, the number of persons fatally and nonfatally injured at railway-highway grade crossings has decreased since 1945. Between 1945 and 1950, crossing fatalities were reduced by 17 per cent and crossing injuries by 2 per cent. There was a slight reduction in both fatalities and nonfatal injuries at grade crossings during the first ten months of 1951, compared with the corresponding period of 1950.

In the first ten months of 1951, casualties to trespassers—both fatal and nonfatal—were also reduced. Here again, the railroads have made substantial progress in the reduction of such casualties since the end of the war.

When compared with years prior to 1950, the statistical record of railroad passenger casualties in 1951 was far from satisfactory. Three serious accidents involving passenger trains—one occurring in February and the other two in November—were discouraging factors in the safety performance of railroads in 1951. While the record for 1951 was slightly better than that of 1950, it fell considerably below the safety performance of a number of years prior to 1950. Analysis of the cause of the most serious accident in 1951 indicates that it was the result of excessive speed maintained by the engineer on a temporary trestle despite warning signs. In the West, a rear-end collision occurred during an early season blizzard in November.

OPERATIONS OF THE RETIREMENT BOARD

Railroad Retirement. Beneficiaries on the rolls of the Railroad Retirement Board numbered 414,464 as of October 31, 1951, an increase of 20,118 over the number on October 31, 1950. The 1951 total consisted of 257,304 retirement annuitants, 6,588 pensioners (transferred from the voluntary pension rolls of the carriers in 1937) and 150,572 recipients of survivor annuities.

The increase of 20,118 beneficiaries in 1951 (which was materially less than the corresponding increase for 1950) resulted from a net increase of 10,849 in the number of retirement annuitants, a net increase of 10,521 in the number of survivor annuitants, and a decrease of 1,252 in the number of pensioners by reason of deaths in that group.

The annual level of benefit payments, based on October disbursements, increased from $315,537,000 for 1950 to $328,996,000 for 1951, an increase of 4.3 per cent.

Rising employment levels, together with increases in wage rates during 1951, were reflected in increased retirement payroll tax accruals. For the 10 months ended October 1951, accruals by railways of Class I amounted to $221,141,000 compared with $199,938,000 for the same period of 1950, an increase of 10.6 per cent. Corresponding amounts were paid by rail employees. The payroll tax rate of 6 per cent each on railroads and employees (12 per cent total) in effect since January 1, 1949, rose to 6¼ per cent on each (12.5 per cent total) on January 1, 1952.

Specific Appropriation Discontinued

Railroad retirement payroll taxes are collected by the Bureau of Internal Revenue and deposited in the general fund of the U. S. Treasury. Under the appropriation act for the fiscal year 1952, Congress for the first time did not appropriate a definite amount of money to the railroad retirement account. Instead, it authorized the secretary of the treasury to credit to the account the actual amount of taxes collected during the year. Congress had previously appropriated a specific sum of money, based primarily on an estimate of the taxes to be collected in the year.

The following summarizes the financial operations of the railroad retirement system from its inauguration in 1937 to October 31, 1951:

Receipts:		
From appropriations	$4,835,212,941	
Interest on investments	308,903,349	
Total		$5,144,116,290
Disbursements:		
Benefit payments	$2,527,314,533	
Transfers to administrative account (net)	12,083,500	
Total		$2,539,398,033
Balance as of October 31, 1951		$2,604,718,257

Administrative expenses for the entire period of operation to October 31, 1951, amounted to $52,507,908. The 1952 appropriation act specified that not more than $4,845,808 should be expended for administration in that fiscal year.

Railroad Unemployment Compensation. Disbursements for railroad unemployment compensation benefits in 1951 showed a substantial decrease. Benefit disbursements for the 10 months ended October 31, 1951, amounted to $16,562,665 compared with $55,846,164 for the corresponding period of 1950, a reduction of $39,283,499. The sharp drop in unemployment among railroad workers which accompanied national defense preparations subsequent to Korea is reflected by the following comparison of benefit disbursements for the first five months of 1951 (January-May), and the next five months (June-October), with the corresponding 5-month periods of 1950.

	1950	1951	Per cent decrease
January—May	$43,871,332	$10,666,065	75.7
June-October	11,974,332	5,896,600	50.8
January—October	$55,846,164	$16,562,665	70.3

Unemployment disbursements for the ten months ended October were less by 70 per cent in 1951 than in 1950. Comparing the two five-month periods of 1951 with each other, the disbursements showed a substantial reduction in the second period, from $10,666,000 (January-May) to $5,897,000 (June-October).

Unemployment Tax Rate Unchanged

Sickness and Maternity. Benefit disbursements for sickness, injury and maternity declined slightly in 1951. Payments on account of sickness and injury (excluding maternity benefits) amounted to $19,797,892 for the 10 months ended October 31, 1951, compared with $21,264,599 for the corresponding period of 1950. Maternity benefits remained at approximately the same level, amounting to $1,732,684 and $1,735,561 for the respective periods.

Unemployment tax accruals by Class I railways for the ten months ended October 31, 1951, amounted to $18,428,000 compared with $16,662,000 for the corresponding period of 1950, an increase of $1,766,000 or 10.6 per cent. Since the current payroll tax rate (0.5 per cent) prevailed during both 1950 and 1951, this increase reflected the dual factors of increased employment and rising wage rates.

Under the sliding scale of payroll tax rates provided by the Railroad Unemployment Insurance Act, the rate for the year 1952 will remain at 0.5 per cent. This rate will continue as long as the balance in the railroad unemployment insurance reserve amounts to $450,000,000 or more on September 30 of the preceding calendar year. The officially proclaimed balance as of September 30, 1951, was $767,733,414. This compares with $779,067,959 as of September 30, 1950.

The financial results of operation of the railroad unemployment insurance system for the entire period of operation from July 1, 1939, to October 31, 1951, are summarized below:

Receipts:		
Taxes (incl. transfers from states)	$1,142,332,571	
Interest on unemployment reserve fund	139,885,305	
Total receipts		$1,282,217,876
Disbursements:		
Benefit disbursements (net):		
Unemployment	$334,199,724	
Sickness (excl. maternity)	113,404,209	
Sickness (maternity)	8,539,859	
Administrative expenses	54,935,582	
Total disbursements		$511,079,365
Balance:		
To credit of unemployment reserve	$764,389,286	
To credit of administration fund	6,749,225	
Total balance, October 31, 1951		$771,138,511

ACTIVITIES OF THE INTERSTATE COMMERCE COMMISSION

Government Reparation Cases. The so-called reparation cases comprise seventeen complaints filed with the Interstate Commerce Commission by the Department of Justice, in which the federal government seeks to recover overcharges which it claims were made by the railroads during World War II on certain types of military shipments. Hearings were concluded May 9, 1951. The due date for briefs is March 18, 1952.

Request for Study of Long-Haul Trucking Denied. A request by 90 railroads (April 1950) and other petitioners that the commission undertake an investigation of long-haul highway transportation was denied in an order dated February 5, 1951. The reasons given were lack of personnel and the cost involved. Subsequent to the order of February 5, the railroads asked the commission to reconsider its previous decision. The commission also denied this request.

Trip-Leasing of Trucks Banned. In a report dated May 8, 1951, the commission prescribed rules and regulations to be observed by motor common and contract carriers of property, governing the leasing and interchange of motor-vehicle equipment. The report grew out of proceedings in Ex Parte MC-43, Lease and Interchange of Vehicles by Motor Carriers. Among other things, the regulations abolish trip-leasing of vehicles (that is, leasing of a vehicle for a single trip), subject to certain exceptions. The effective date of the rules governing trip-leasing, originally set at August 1, 1951, has been extended from time to time at the request of the U. S. District Court for Indiana, to allow time for hearing and decision of a suit by 21 motor carriers to have the commission's order set aside. The latest postponement was to February 1, 1952.

Reports Issued in Dockets 28300 *and* 28310. Reports, dated, July 26, 1951, were issued by the commission in two extended proceedings, Class Rate Investigation, 1939 (Docket 28300), and Consolidated Freight Classification (Docket 28310). In the classification case, the commis-

sion ordered the railroads to file a new and uniform classification of freight within four months. In the class rate case it found (but did not now prescribe) as just and reasonable a scale of rates, graduated according to distance up to 3,000 miles, to be applied east of the Rocky mountains in connection with the new classification when made effective. This scale supersedes the scale established by the commission in 1945, and is somewhat more than 60 per cent higher than that scale.

The commission in its 1945 decision made an interim adjustment by increasing class rates in Official territory 10 per cent, and reducing class rates in Southern, Western Trunk-Line and Southwestern territories and interterritorially by the same percentage. This interim adjustment went into effect August 22, 1947, and has been the base for later general rate increases.

At the request of the railroads, the commission on November 7, 1951, extended until February 1, 1952, the date for filing a uniform classification, the same to be effective 120 days after filing. This action was taken with the understanding that the new class rate tariffs, based on the scale of class rates found just and reasonable in the July 26 report of the commission in Docket 28300, will be filed simultaneously with the uniform classification.

Class rates in the Mountain-Pacific territory and on transcontinental traffic are under investigation in a separate proceeding.

Truckers Seek to Haul Explosives. The Interstate Commerce Commission opened hearings in Chicago on September 17, on applications from some sixty motor carriers (most of them common carriers), seeking permission to transport explosives. The application of Riss & Co., a Kansas City trucking firm, was the first to be heard. The remainder of the applications will be consolidated into one hearing. The applications, which cover routes extending to all parts of the country, are opposed by the railroads, most of the railroad brotherhoods, the American Automobile Association, a number of states and cities, and various private groups.

Power Brake Order Again Extended. The commission made public on June 8, 1951, an order in Docket 13528, Investigation of Power Brakes and Appliances for Operating Power Brake Systems, extending from December 31, 1951, to June 30, 1952, the effective date of its order requiring installation of power brakes and appliances on cars used in freight service.

Depreciation Rate Maintained

Accelerated Amortization. The commission on August 20 gave notice of a new policy initiated by its Division 1 with respect to accounting for accelerated amortization of equipment and facilities acquired to handle defense traffic; this policy to be applicable to all carriers subject to commission jurisdiction.

A second notice, issued August 24 and applicable to railroads, contained a proposed order to require a restatement of railroad accounts to eliminate accelerated amortization recorded since December 31, 1949.

Railroad reports to the commission, under the order, would no longer reflect as a current expense the accelerated amortization of facilities acquired for emergency purposes, unless shown that they will have no use in transportation service after termination of the emergency. Instead of writing off such facilities through operating expenses on a 60-month basis, they would be depreciated at approved depreciation rates, and the current charges to operating expenses would include only the depreciation.

A large number of railroads joined in asking the commission not to issue the order of August 24. The commission docketed the matter as No. 30920, and oral argument was heard November 20. Some 121 railroads opposed the contemplated action of the commission, six supported the commission's proposal, and four favored it, provided the tax-accrual account were at the same time adjusted to correspond to the change from amortization to depreciation accounting. Several other interests also appeared.

In an order handed down on December 21, the commission affirmed the action of Division 1.

This action will not, however, affect amortization accounting for tax purposes, under provisions of Section 124A of the Internal Revenue Code, nor will it preclude the filing of further applications for accelerated amortization of the cost of facilities acquired to handle the emergency traffic load. (The result of amortization certifications, for railroads up to December 27, 1951, is outlined in the section dealing with the Defense Transport Administration.)

Other Developments

Equipment Rent Accounting Order. A commission order, effective September 1, 1951, provided for modifications of the Uniform System of Accounts so that payments to insurance companies, or others, for lease of cars and locomotives for periods in excess of one year, if not made under contracts covering lease of road, will be included in the Hire-of-Equipment account, and thus be charged off before net railway operating income. Such accounting affects charges for equipment leased under the so-called Equitable Plan, or similar plans.

Developments under Reed-Bulwinkle Act. This act, which became Section 5a of the Interstate Commerce Act, was passed in 1948 to afford relief from antitrust laws with respect to agreements among carriers relating to procedures requiring joint consideration, such agreements to be approved by the commission. Developments in 1951 under Section 5a of interest to railroads included approval by the commission on August 17 of Application No. 21, Illinois Freight Association Agreement, subject to certain terms and conditions, and on October 18 of Application No. 6, Southern Freight Association *et al* Agreements, also subject to various terms and conditions. On January 15, 1951, the commission denied petitions filed by the Department of Justice to reopen Application No. 3, Eastern Railroads Agreements, and Application No. 7, Association of American Railroads, Per Diem, Mileage, Demurrage and Storage Agreement.

During the year eight additional applications were filed under the provisions of Section 5a, none of them involving railroads or railroad organizations. This makes a total of 37 applications since the Reed-Bulwinkle Act became effective, including those filed by railroads, motor carriers, water carriers, and other groups.

I.C.C. Appropriation for Fiscal 1952. The Independent Offices Appropriation Bill, approved August 31, carried an appropriation of $10,474,535 for the Interstate Commerce Commission for the fiscal year 1952. The Presi-

dent's budget message had recommended appropriations totaling $11,542,000. Prior to enactment of the appropriation measure, the commission announced on June 19 that the proposed reduction in its funds would result in curtailment of the commission's work pertaining to safety on the railroads.

Commissioner Rogers Reappointed. The President reappointed Commissioner John L. Rogers for another seven-year term on the commission, commencing January 1, 1951, the appointment being confirmed by the Senate on April 12. Commissioner Rogers will serve as chairman of the commission for the year 1952, succeeding Chairman Splawn. The chairmanship is rotated among the commissioners on an annual basis.

DEFENSE TRANSPORT ADMINISTRATION ACTIVITIES

The Defense Transport Administration (D.T.A.) made public on December 10, 1951, a record of operations, covering its activities from September 9, 1950, to September 30, 1951, roughly the first year of its existence. Interstate Commerce Commissioner James K. Knudson continued as director of D.T.A. throughout 1951.

With respect to railroad transport, the report states that the most pressing problem facing the D.T.A. at the outset was a nationwide shortage of freight cars. A three-sided attack on that problem was undertaken: (1) continuing analysis of the railroad situation; (2) formulation and promotion of equipment and materials programs; and (3) development of traffic movement and conservation programs, to promote more efficient use of existing equipment and more expeditious movement of traffic.

An important function of D.T.A. is that of a claimant agency of the government for the purpose of securing equipment and materials needed by domestic transport. Programs for this purpose are formulated and prosecuted before the National Production Authority and the Defense Production Administration. In its efforts to secure allocations of steel and other critical materials for the construction and maintenance of freight cars, D.T.A. was only partially successful.

A goal of a minimum of 10,000 new freight cars per month, including 850 tank cars, was considered necessary by the railroads. Progress of D.T.A. toward realizing this goal may be summarized from its report as follows:

	Materials requested for:		Materials allocated for:	
1951	Freight Cars	Tank Cars	Freight Cars	Tank Cars
2nd quarter	40,000 (all kinds)		27,475	1,575
3rd quarter	30,000	2,802	26,000	2,500
4th quarter	36,000	2,802	24,500*	2,500*

*Allocations for the 4th quarter also covered cars for military, industrial, and export use.

This summary shows the difficulties experienced by railroads during the year in realizing their freight car production program.

A locomotive program calling for 1,200 diesel units and 15 steam locomotives per quarter was presented by D.T.A. to the National Production Authority, early in 1951. Actual accomplishments under that program included construction and delivery, during the first seven months of 1951, of 1,483 new locomotives, of which 1,471 were diesels. This was an average production of only 210 diesels per month compared with the program of 300 per month.

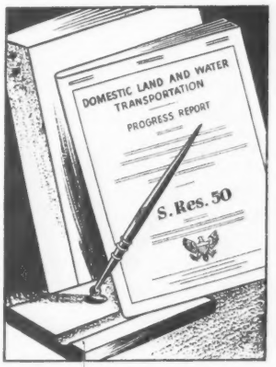
Another important activity of the Defense Transport Administration is the review of applications for accelerated tax amortization of the cost of acquiring transportation facilities to meet the needs of naional defense. Following review, the D.T.A. forwards such applications with its reports and recommendations to the Defense Production Administration. During its first year of operation, the D.T.A. received 2,110 applications for amortization, aggregating $3,280 million. A total of 1,115 applications were processed; 995 were still pending on October 1, 1951. These statistics cover amortization of facilities for railroads, highway transportation, inland waterways, and for warehousing, storage, and port facilities.

As of December 27, 1951, 1,319 railroad applications for amortization certificates had been referred to D.T.A., covering facilities with a gross cost of $2,902 million. Of these, 180 (gross cost $165 million) had been denied, and 275 (gross cost $1,419 million) had been certified. The remaining 864 applications were still pending, either in the D.P.A. or the D.T.A. offices.

Generally speaking, freight car acquisition certificates were issued for 80 per cent of the gross cost, diesel and passenger car certificates for 65 per cent of gross cost, and other certificates for 50 per cent of gross cost. The 275 certifications covered acquisition of 118,804 freight cars, 2,587 diesels, 38 passenger cars, and a number of miscellaneous projects.

The Supplemental Appropriation Bill, approved November 1, 1951, contained an appropriation for D.T.A. for fiscal 1952, totaling $2,543,750.

BRICKER REPORT IN THE TRANSPORTATION INVESTIGATION



Senate Resolution 50, adopted April 11, 1949, directed the Senate Committee on Interstate and Foreign Commerce to investigate problems relating to the air line industry, the merchant marine, domestic land and water transportation, and radio and other communications. A Subcommittee on Domestic Land and Water Transportation, created to study those particular types of transport, held extended hearings during 1950. The time for completion of the investigation has been moved forward from time to time, and S. Res. 154, passed June 29, 1951, again extended the termination date to January 31, 1952. No report has yet been made by the subcommittee, but on October 19, 1951, a comprehensive progress report (Senate Report 1039) was filed by Senators Bricker and O'Connor, subcommittee members.

The progress report, a 78-page document, discusses

the American transportation system, regulation, need for change in specific regulations, federal aids to domestic land and water transportation, and particular problems of the railroads. The report includes various recommendations and conclusions which represent the views of the authors, and have neither been approved or disapproved by the Senate Committee on Interstate and Foreign Commerce. Significant conclusions reached by the report include the following:

Despite the statement of national transportation policy set forth in the Transportation Act of 1940, Congress, the courts, and federal transportation agencies generally, have failed to give the declaration "due weight."

Fair and impartial regulation of all modes of transportation does not exist.

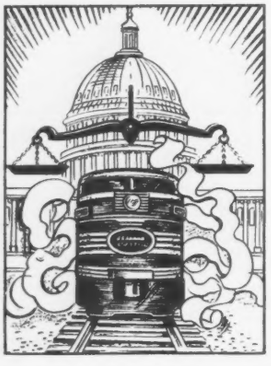
Failure to achieve the objective of the national transportation policy is "hardly surprising in view of the numerous statutory provisions which authorize discriminatory regulation." (Examples cited include truck and water carrier exemptions.)

It should be obvious that subsidies to selected forms of transportation are inconsistent with those provisions of the national transportation policy which relate to fostering "sound economic conditions in transportation" and to preserving the "inherent advantages" of each form of transportation.

Regulation of the railroads at the present time is not uniform with that of competing carriers.

The unhealthy financial condition of the railroads has not been caused by lack of technological progress, or by managerial inefficiency, and the "idea that the financial woes of the railroads have been caused by overcapitalization is fallacious."

LEGISLATION AFFECTING THE RAILROADS



The first session of the 82nd Congress convened on January 3, 1951, and adjourned October 20. During the year the House recessed twice — from March 22 to April 2, and from August 23 to September 12—although the Senate remained in session during both periods. Pending legislation on which Congress took no final action, prior to adjournment, carries over to the second session, which convened on January 8, 1952.

Various measures affecting railroad interests, directly or indirectly, were considered by Congress in 1951, a number of which were enacted into law.

Laws Enacted

Railroad Retirement Act Amendments (Public Law 234). This measure, approved October 30, liberalizes certain provisions of the Railroad Retirement Act. The basic formula used in computing retirement benefits is increased by 15 per cent; that for survivor benefits 33 1/3 per cent; and for lump-sum benefits 25 per cent. In addition, the maximum average monthly earnings used in the calculation of the latter two classes of benefits is increased from $250 to $300. The maximum monthly retirement annuity becomes $165.60 (instead of $144), and the maximum payable monthly to the family of a deceased employee becomes $160 (instead of $120). Service after age 65 is now made creditable toward retirement benefits. A new benefit is added for the wife (or dependent husband) of an employee over age 65 receiving retirement benefits, payable when the wife (or husband) is also over age 65. The same benefit is payable to a wife, under age 65, who has an unmarried child under 18 in her care. The benefit is equal to one-half of the employee's annuity, up to a maximum of $40 per month. A further new benefit is added for the dependent widower, age 65, of a deceased female employee equal to the amount that would be payable to a widow. Provision is made for the transfer of employees who retire with less than 10 years of railroad service to coverage under the Social Security Act. Existing tax rate schedules remain unchanged. The new retirement and survivor provisions became effective November 1, 1951.

Retirement System Study

Both houses also adopted Senate Concurrent Resolution No. 51 in October, establishing a joint congressional committee on railroad retirement legislation, to make a fact-finding study of the railroad retirement system for the purpose of ascertaining what further changes should be made.

The joint committee will consist of three members of the Senate Committee on Labor and Public Welfare, and three members of the House Committee on Interstate and Foreign Commerce.

Section 77 of Bankruptcy Act Amended (Public Law 194). An act amending Section 77 of the Bankruptcy Act, approved October 24, grants authority for the issuance of trustee certificates to provide funds for safety equipment, such certificates to constitute a prior lien over all other existing obligations.

Changes in Parcel Post Weights and Sizes (Public Law 199). Legislation designed to readjust size and weight limitations on fourth-class or parcel post mail was approved October 24. Effective January 1, 1952, parcels sent by mail will have a size limitation of 72 inches in length and girth combined, and a weight limit of 40 pounds in the first and second zones, and 20 pounds in the third to eighth zones. Certain exceptions are permitted, the principal ones being parcels mailed at or destined to second, third, or fourth class post offices, parcels mailed at or destined to army or fleet post offices, and shipments containing baby fowl, live plants, trees, shrubs, etc. In such cases, the size limit is 100 inches, and the weight maximum 70 pounds.

The President also approved, October 30, a measure (Public Law 233) authorizing certain increases in postal rates, effective January 1, 1952. The act retains the present rate of 3 cents on letters and sealed parcels and 6 cents on air mail letters, but increases the cost of special delivery from 15 to 20 cents. The postcard rate is increased from 1 to 2 cents. Certain increases in second and third class mail are also provided. With the approval of the Interstate Commerce Commission, the Post Office Department made certain increases in parcel post rates, effective October 1, 1951.

Union Shop and Check-off of Dues (Public Law 914—81st Congress). Legislative work on a bill (S. 3295) amending the Railway Labor Act so as to permit agreements providing for a union shop and check-off of union dues in the railroad industry was completed at the close of 1950, but the measure was not enacted until January 1, 1951, and was signed by the President on January 10.

Revenue Act of 1951 (Public Law 183). This act, approved October 20, effected significant changes in the tax laws, but did not remove or modify the excise tax of 3 per cent on freight transportation, and 15 per cent on

passenger transportation. Its more important provisions follow.

1. Increased individual income taxes, effective November 1, 1951.
2. Increased maximum effective tax on long-term capital gains from 25 per cent to 26 per cent, applicable both to individuals and corporations.
3. Retroactive to April 1, 1951, corporate tax rates were increased from 47 per cent to 52 per cent on income over $25,000, such increase to terminate March 1, 1954. The corporate tax ceiling was placed at just under 70 per cent.
4. The excess profits tax credit based on earnings was reduced from 85 to 83 per cent, effective July 1, 1951.

Provisions of particular interest to railroads include:

5. Made permanent section 22(b)(9) of the Internal Revenue Code providing for exclusion from gross income of gains resulting from acquisition by a corporation of its bonds at less than par. Extended for three years (until December 31, 1954) section 22(b)(10), which provides exclusion from gross income of so-called gain resulting from adjustment of securities in railroad organizations.
6. Provided for allocation of back mail pay (accrued in 1950) to the years in which the service was rendered, without interest on deficiencies.
7. Provided that certain lessor railroad corporations will be permitted to qualify for the special 6 per cent public utility credit, where they file consolidated returns with the lessee railroad corporations.

Defense Production Act Amendment of 1951 (Public Law 96). This legislation, embodying certain amendments to the Defense Production Act of 1950, and extending that act and its controls until June 30, 1952, was approved July 31. Controls involved include those administered by the Defense Transport Administration, as well as those relating to prices, scarce materials, and wages. Of particular interest to railroads are new provisions relating to wages in that industry.

An amendment to Section 403 provides: "That the President shall administer any controls over the wages or salaries of employees subject to the provisions of the Railway Labor Act, as amended, through a separate board or panel having jurisdiction over such employees." Pursuant to this provision, a temporary emergency railroad wage panel was set up on August 17 and continued to function until September 27, when it was succeeded by a Railroad and Airline Wage Board created by Administrator Eric Johnston of the Economic Stabilization Agency.

The function of this board, composed of three members, (Nelson M. Bortz, chairman, Francis A. O'Neill, Jr., and Walter T. Nolte), is to make findings and certifications that proposed voluntary wage adjustments conform to established wage policy. When such findings and certifications have been approved by the Economic Stabilization Administrator, the proposed adjustments may be put into effect by agreement between carriers and the collective bargaining representatives of the employees. Disputed cases are subject to procedures set forth in the Railway Labor Act, and the board may take no action inconsistent with that act. Arbitration or emergency boards or other agencies established to handle disputes arising under the Railway Labor Act must specifically find and certify that any wage adjustments proposed in settlement of a dispute are consistent with stabilization policy, and such findings must be approved by the administrator of the Economic Stabilization Agency before the terms of such settlement may be placed in effect by agreement of the parties. The Railroad and Airline Wage Board has jurisdiction over wage and salary adjustments for approximately 1,500,000 workers employed by some 1,100 railroads, and 100,000 employees of air carriers.

St. Lawrence Waterway Project. Numerous measures were introduced in the first session of the 82nd Congress designed to authorize the St. Lawrence waterway project by approving the Executive Agreement of March 19, 1941, between the United States and Canada, providing for its construction. The House Committee on Public Works held extended hearings on various House bills, but voted July 26 to table all measures pending before it. Subsequently a new measure (H.J. Res. 337) was introduced by Representative John A. Blatnik of Minnesota on October 1, containing much the same proposals as those in the measure prevously tabled. Brief hearings were held at the Blatnig bill, but were then suspended until after January 1, 1952. Unsuccessful attempts were made in both Senate and House to attach the St. Lawrence waterway proposal to the Mutual Security Act of 1951 (H.R.5020), the so-called foreign aid bill. The Senate did not consider the St. Lawrence project in 1951.

Announcement by Canadian officials in November that Canada proposed to proceed with the St. Lawrence project alone unless the United States gave early ratification of the undertaking, was followed, in December, by passage by the Canadian Parliament of legislation authorizing the Canadian government to build and operate the navigation part of the St. Lawrence project, and approving an agreement between that government and the Province of Ontario, under which the province can undertake power development along the International Rapids section of the St. Lawrence. These measures will be made effective by later proclamation.

Separation of Air Mail Pay from Subsidy. Various measures were introduced, directed toward separation of air mail pay from subsidy. One bill, S.436, was favorably reported by the Senate Committee on Interstate and Foreign Commerce on August 9. With added amendments from the floor, the Senate passed the measure September 19 and sent it to the House. The bill, as passed, would provide for separate determination, according to stated standards, of air mail compensatory rates and subsidy payments to air carriers. Although a number of bills dealing with this matter were introduced in the House, no action was taken on any of them by its Committee on Interstate and Foreign Commerce, nor did that committee act on S.436, passed by the Senate.

In a special report issued October 1, the Civil Aeronautics Board announced that it had effected an administrative separation of service mail payments from subsidy mail payments for domestic certificated air carriers. The board stated that in all mail rate cases processed in the future, it will identify the portion of mail payment which is compensation for transportation service and that which is subsidy. The report showed, for fiscal 1951, that out of total domestic mail pay of $61,934,000, $27,369,000 was service pay and $34,565,000 was subsidy.

The corresponding figures for the 13-year period since passage of the Civil Aeronautics Act of 1938 were: total payments to domestic air carriers, $457 million, of which approximately $270 million represented subsidy. The board emphasized in its statement that in separating air mail pay and subsidy for the air lines, it acted on its own motion.

A QUIET YEAR IN COURT PROCEEDINGS

Government Antitrust Suit. This action, commonly designated as the Lincoln Antitrust Case, was instituted in July 1944 by the Department of Justice against the Western Association of Railway Executives, Association of American Railroads, and certain defendant railroads and individuals. On October 23, 1950, the Department of Justice notified the United States District Court at Lincoln, Neb., that it proposed a court attack on orders of the Interstate Commerce Commission approving Applications Nos. 2 and 7, filed under provisions of Section 5a of the Interstate Commerce Act. Judge John W. Delehant thereupon entered an order, providing that no further proceedings be taken in the Lincoln case until 45 days after final disposition of the contemplated court action. No proceedings involving the commission's orders with respect to Applications 2 and 7 were instituted in the courts during 1951, and the status of the suit remained unchanged.

Barge Differentials

Rail-Barge Joint Rate Order Upheld. The United States Supreme Court, on January 2, 1951, affirmed the action of a lower court in refusing to set aside the order of the commission requiring railroads and water carriers on inland waterways to establish through routes and joint rail-water rates reflecting differentials under all-rail rates. The commission order, dated June 13, 1949, was issued in I.C.C. Docket 26712, a long-pending proceeding which dealt with the general question of rail and barge joint rates. The effective date of the commission's order, postponed from time to time, was further extended to March 1, 1952, by the commission on August 2, 1951.

On December 17, 1951, railroads petitioned the commission to vacate its order of June 13, 1949, and asked in addition that, pending action on the petition, the effective date of that order be further postponed.

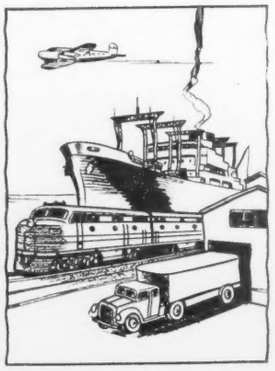
Wisconsin Antistriks Law Declared Invalid. A Wisconsin law which prohibited strikes against public utilities was held invalid by the United States Supreme Court in a decision announced February 26. The court found that the anti-strike law was in conflict with federal enactments such as the National Labor Relations Act of 1935 and the Taft-Hartley Act of 1947.

State Jurisdiction

Appeals from State Commission Orders Must Go to State Courts. In two cases involving discontinuance of train service, the United States Supreme Court ruled, on June 4, that railroads should go to state courts to seek relief from orders of a state regulatory commission. In both cases—Alabama Public Service Commission vs. Atlantic Coast Line (92 F. Supp. 579) and Alabama Public Service Commission vs. Louisville & Nashville (93 F. Supp. 544)—the Alabama commission refused permission to discontinue certain passenger-train services. Appeals to a federal district court resulted in findings that the commission's orders were void, and injunctions were obtained against their enforcement. The Supreme Court, however, set aside the decisions of the lower court and held that adequate state review of a state commission order was available, and that intervention of a federal court was not necessary to protect federal rights. The court's decision was similar to that rendered a few weeks earlier in two cases of the same character involving the Southern and the Alabama Public Service Commission. (Southern Railway vs. Alabama Public Service Commission, 88 F. Supp. 441 and 91 F. Supp. 980.)

Railroads Sued by Seatrain Lines. In a 52-page complaint, filed December 10 in the United States District Court at Trenton, N. J., Seatrain Lines, Inc., charged twelve eastern railroads with conspiring to restrict and prevent Seatrain's growth and development in interstate commerce, and with violation of the Sherman Antitrust Act. Seven railroad associations also were named as defendants. Monetary damages of more than $164,000,000 are being sought of four of the twelve railroads involved.

IMBALANCE PERSISTS IN THE COMPETITIVE SITUATION



Increasingly severe competition for traffic was experienced by the railroads in 1951, especially from motor and air carriers. Although various studies of the national transportation situation were under way, no definite steps were taken to relieve railroads of their competitive handicaps. Rail carriers have, however, continued their large-scale programs of improvement, not only for the purpose of maintaining and improving their competitive position but also for the far more important purpose of providing the country with adequate, high standard, transportation service.

Highway, Air, and Waterway Appropriations. Fiscal 1952 appropriations provided substantial amounts, expenditure of which will benefit competitors of the railroads. Appropriations for the Department of Commerce included $155,000,000 for the Civil Aeronautics Administration and its various air transport activities, and $325,000,000 for the federal-aid highway program of the Bureau of Public Roads. The Civil Functions Appropriation Bill, approved October 24, contained appropriations of $192,657,613 for rivers and harbors projects, and $316,544,000 for flood control projects, a total of $509,201,713.

Mail Hauls to Trucks

Trucks Get Short-Haul Mail. At a press conference February 19, 1951, John M. Redding, assistant postmaster general for transportation, announced a "basic change in postal transportation policy," involving diversions of short-haul bulk mail from railroads to trucks. The new policy will apply initially to mail moving up to

200-mile distances from large terminal areas, beginning with Boston and St. Louis. The revenue accruing to rail carriers from this business totaled approximately $100 million a year. Truck routes set up under the new arrangement will be operated under contracts let to low bidders.

Barge Line Embargoes Ordered Removed. In a report made public February 2, in Dockets Nos. 30118 and 30123, New Orleans Traffic & Transportation Bureau vs. Mississippi Valley Barge Line and American Barge Line, the commission found that embargoes issued by those companies against less-than-bargeload service between specified points on the Mississippi river constituted an unreasonable practice and violated section 305 (paragraphs (a) (b) (c)) of the Interstate Commerce Act. The commission ordered removal of the embargoes. The commission said in part: "Defendants are authorized by certificates issued by the commission to operate as common carriers of general commodities. Those authorizations confer upon the defendants not only the right, but the obligation to perform a complete common-carrier service. Such a service includes, among other things, the transportation of less-than-bargeload shipments as well as bargeload shipments. . . .

"Abandonment of services by water carriers does not require authorization by the commission. Abandonment cannot lawfully be accomplished, however, by merely issuing an embargo notice or cancelling the rates without relinquishment of the authority granted."

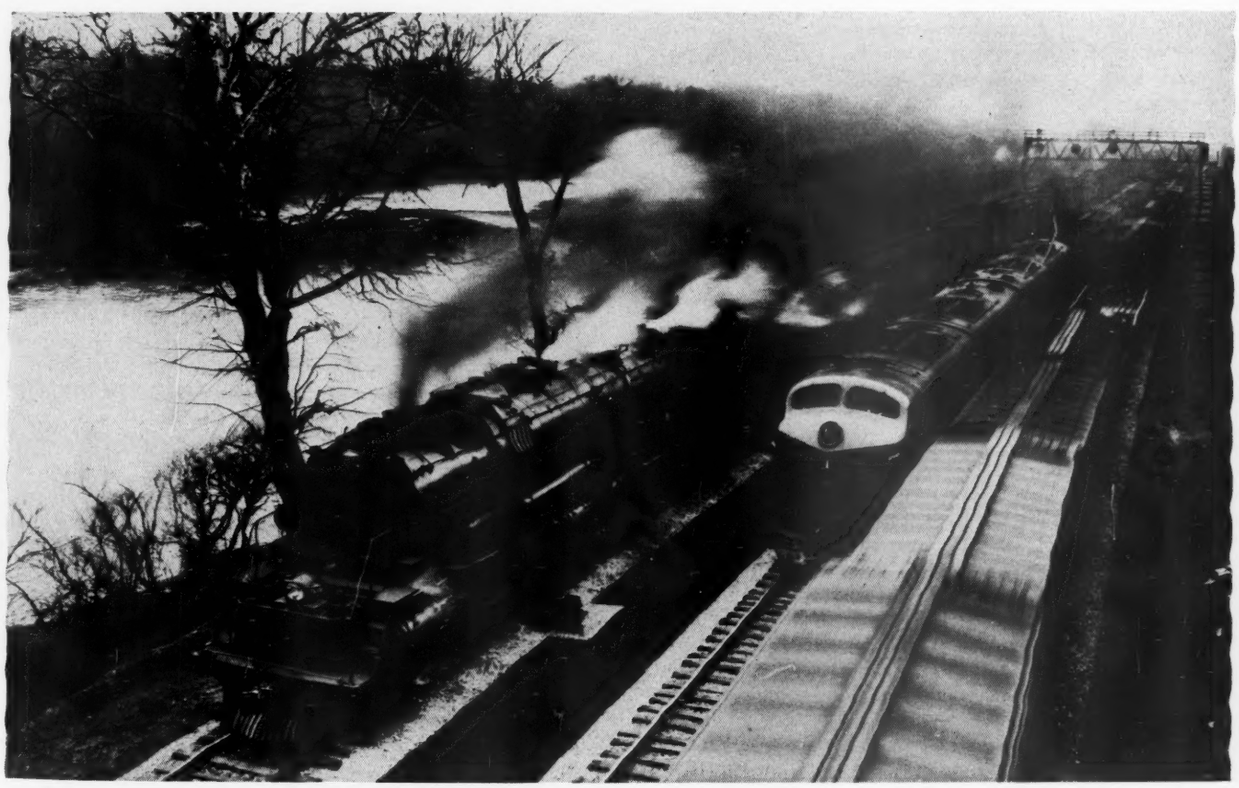
Operations of Inland Waterways Corporation. Preliminary reports of the Inland Waterways Corporation for the fiscal year 1951 indicate an increase in traffic, and a moderate increase in financial results. The operations produced a small net revenue in 1951, after several years of substantial deficits.

Secretary of Commerce Sawyer announced on September 21 the appointment of W. G. Oliphant as acting president of the corporation. He succeeded A. C. Ingersoll, Jr., who resigned after Secretary Sawyer had rejected an offer by Mr. Ingersoll and 13 of his staff associates to form a corporation to acquire and operate the properties of the corporation. Mr. Oliphant has been employed by the Federal Barge Lines for 29 years, and prior to his appointment was general traffic manager.

Seatrain Adds a Route

New York-Savannah Service by Seatrain. The Interstate Commerce Commission on November 13 granted Seatrain Lines temporary authority to operate as a common carrier by water in the transportation of commodities generally between New York and Savannah. On November 26, forty-one railroads filed a suit in the United States District Court at Alexandria, Va., in an effort to have the commission's Seatrain order set aside.

C.A.B. Urges Expansion of Air Coach Service. In a statement issued December 6, the Civil Aeronautics Board urged air lines to expand the scope of their "coach" operations and indicated that the board will encourage proposals to reduce coach fares below the present general minimum of 4½ cents per passenger-mile. The board expressed the opinion that coach operations to date have demonstrated their economic soundness. Previously, on October 30, the board announced that it had extended all existing reduced-fare air coach services, on certificated air lines, for a period of 90 days beyond the



The railroads' past performance *"supplies every assurance that they will do their part"*

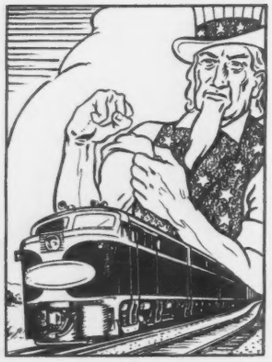
then expiration date of December 31, 1951. Nine of the 16 trunk air lines in the United States are now conducting reduced-fare air coach service.

Investigation of "Irregular" Air Carriers. The Civil Aeronautics Board announced on September 21 an investigation of non-scheduled air services performed by approximately 63 large irregular air carriers which have been temporarily authorized to conduct irregular air transportation of passengers or cargo. The investigation will include, among other things, an inquiry into the need for such non-scheduled transportation.

Reduction in Air Mail Pay Rate. Final mail rates for the "Big Four" air carriers—American, Eastern, Trans World, and United Air Lines—were proposed by the Civil Aeronautics Board in an announcement issued August 7. One proposal was that a uniform rate of 45 cents per mail ton-mile be paid the four lines, retroactive to January 1, 1951. The board found the 45-cent rate to be a compensatory or "service" rate, free of subsidy, and established that rate on September 19, 1951. A second proposal involved final settlement of pending mail pay arrangements covering periods prior to January 1, 1951, during which time the four carriers received mail compensation on a temporary basis. The board proposed settlement for those periods on a basis of 63 cents per mail ton-mile. Adoption of these proposals would involve repayment by the carriers to the government of approximately $5,000,000 in overpayments.

Air Express Agreement Given Qualified Approval. A renewed air express agreement between Railway Express Agency and 33 major air lines received temporary approval from the Civil Aeronautics Board early in December. The agreement runs from January 1, 1951, to February 28, 1954. The board approved the agreement only through December 31, 1952, because of certain "objectionable" features, such as (1) its "exclusive" provisions, giving R.E.A. a virtual monopoly of air express; (2) the formula basis for payments to R.E.A.; and (3) limits which the board says are placed on its power to review air express rates.

MAJOR UNCERTAINTIES AFFECT THE OUTLOOK



Late in December, a number of representative railroads submitted to the Interstate Commerce Commission their best estimates as to the levels of traffic and earnings in 1952. Expanding these estimates to a Class I basis, it would appear that, according to the best judgment of railroad men at the turn of the year, freight and passenger traffic will show no material change between 1951 and 1952. It is anticipated, further, that operating revenues and operating expenses will be greater in 1952 than in 1951, even if no further rate increases are authorized.

Assuming that the present levels of freight and passenger rates continue into 1952 *without change*, and that there is no change in price levels or in wages (other than the escalator adjustments of $120 million on January 1), net railway operating income for 1952 is expected to fall at least $60 million below that of 1951. This would produce at rate of return of about 3¼ per cent on net investment, compared with 3½ per cent in 1951.

These are estimates, of course, made before the year 1952 had even begun, and subject to modification from time to time, as the year progresses. However, they represent the sober judgment of responsible railroad officers as to prospects for the year just ahead, and explain (if explanation is necessary) why they are seeking further rate relief.

Economic and transportation trends in 1952 will depend in considerable measure on international developments, and there would be no point in speculating on those developments. Assuming no radical change in the field of international relations, domestic trends will depend on the answers to two important questions: How far will inflation carry in 1952, and to what extent will guns displace butter? This is no place to consider these questions in detail, although it is clear that the levels of general prices and overall production will largely govern the national economy.

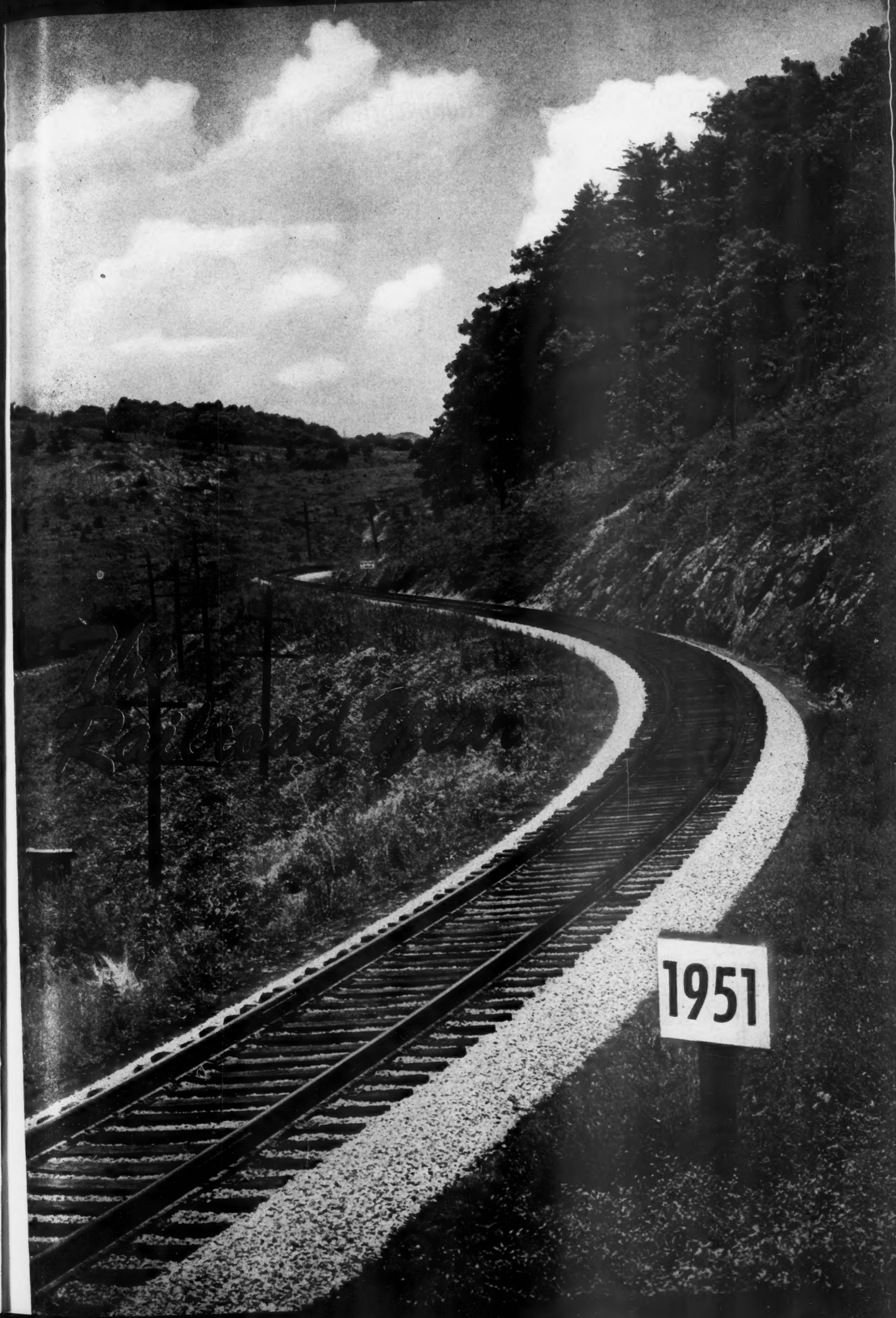
More Records Will Be Broken

Traffic levels appear likely to continue high in 1952, and revenues are likely once more to break all existing records. Such a situation will not, however, spell satisfactory net earnings nor will it solve the many financial problems now facing the carriers. They must be solved, however, if railroads are to be enabled to play their vital part in the critical days ahead of the nation.

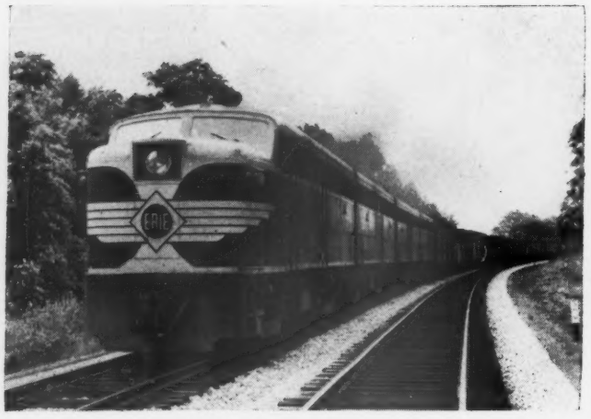
In this connection, recent developments in Great Britain afford a stern warning. There, in 1948, the railroads and certain other transport agencies were nationalized, with the expectation of the proponents of such a policy that the economies and efficiencies of what was termed "integration" would place the nationalized transport system on a paying basis. That was, indeed, the mandate of the act of Parliament which set up the system.

The experience of four unhappy years, 1948-1951, has been disillusioning. Already two substantial railway freight rate increases have been made, aggregating 28-1/3 per cent. This was on top of previous freight rate increases, 1939 to 1947, aggregating 55 per cent. Freight rates on British railways, as a cumulative result, are now twice as high as in 1939. Despite these increases in freight rates, the railways have produced substantial deficits in each of the four years of government operation. Nationalization has been no solution.

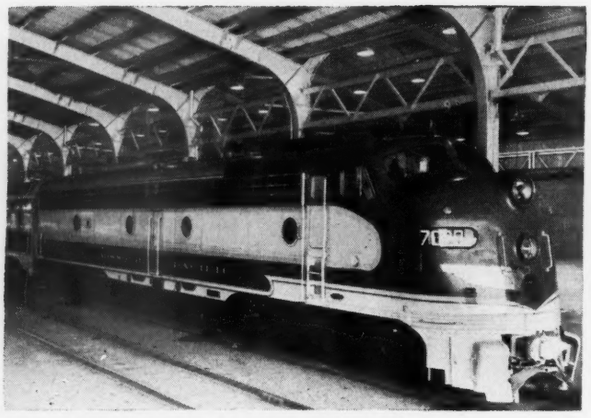
Despite the problems that confront our railroad industry, and other industries as well, railroad officers, managements, and men have a clear obligation for the year 1952. The transportation requirements of the nation must be met. They will be met, as they have been met in all previous emergencies. To that end, cooperation among the several groups involved will undoubtedly be sought and obtained: Congress, in respect of legislative amendments that will remedy some of the existing inequities in promotional and regulative policies; shippers and other users of rail transportation, through such effective media as Shippers' Advisory Boards and other organizations; investors, who are watching the railroad situation with particular interest at this time; finally, the railroads themselves whose performance in this and other crises in the nation's history supplies every assurance that they will do their part, bring the future what it may in terms of added responsibilities and requirements.


The Railroad Boys
1951

FOUR RAILROADS PASSED THEIR HUNDREDTH BIRTHDAY

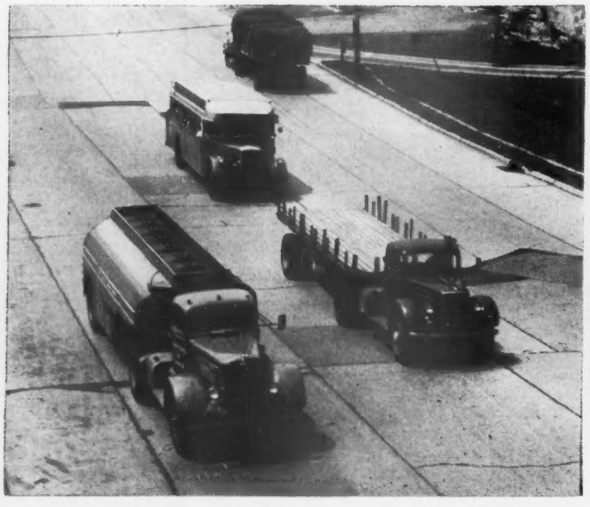


THE ERIE celebrated the centennial of the completion in 1851 of its Hudson River-Lake Erie trunk line



THE MISSOURI PACIFIC entered a second century; its construction was begun at St. Louis in 1851

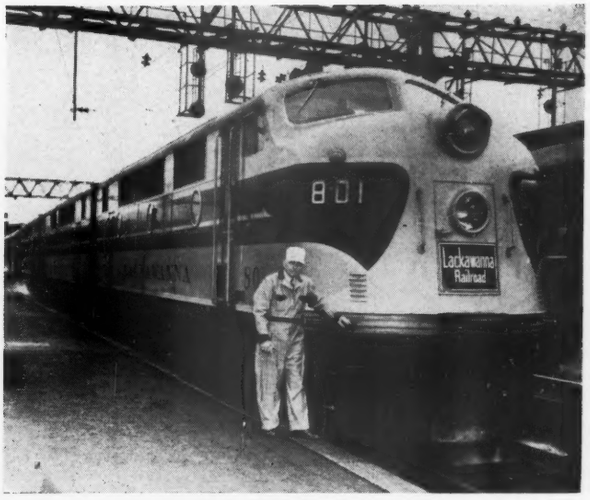
COMPETITION THRIVED as the nation's air lines continued to set new traffic records, while taxpayers provided more terminal facilities and "signaling" and subsidized transportation of mail



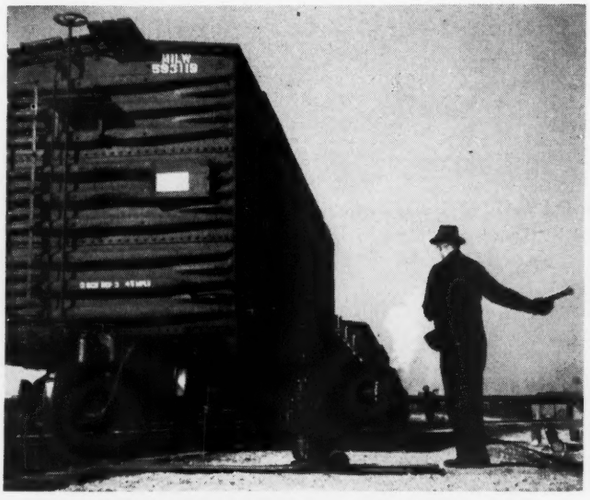
TRUCKS AND BUSES made the most of their opportunities to use rights-of-way built at public expense

SERVICEMEN'S LOUNGES were "reactivated" at passenger stations as manpower mobilization grew

THE ILLINOIS CENTRAL "went to town" up and down the line to mark the conclusion of its first hundred years

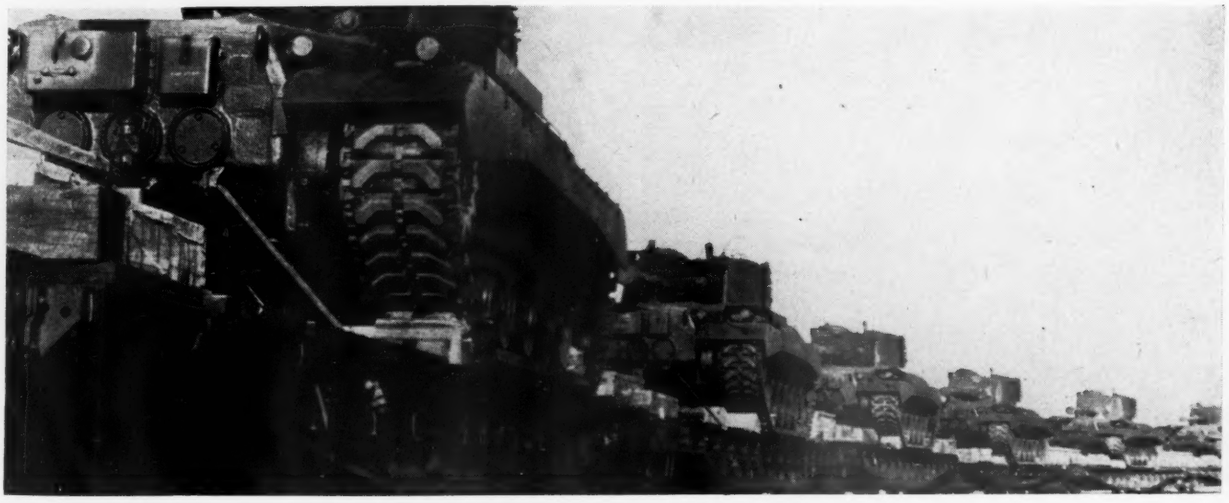


THE LACKAWANNA made Scranton the focus of the activities with which its centennial was commemorated



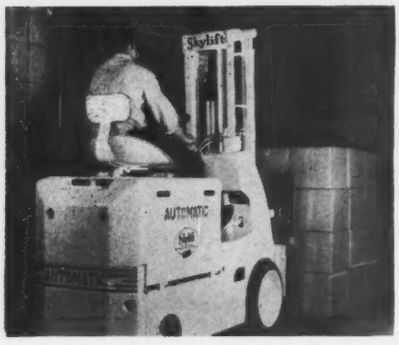
"VIRUS SWITCHMANITIS"—a new disease—hit members of the Brotherhood of Railroad Trainmen last February

RETIREMENT BENEFITS were increased substantially by legislation enacted in October 1951



NEW WEAPONS were coming from manufacturers' plants as the year closed, giving railroads more traffic, but curtailing the supply of materials needed for cars and locomotives

JAMES B. GRIFFIN fostered a plan for better l.c.l. service

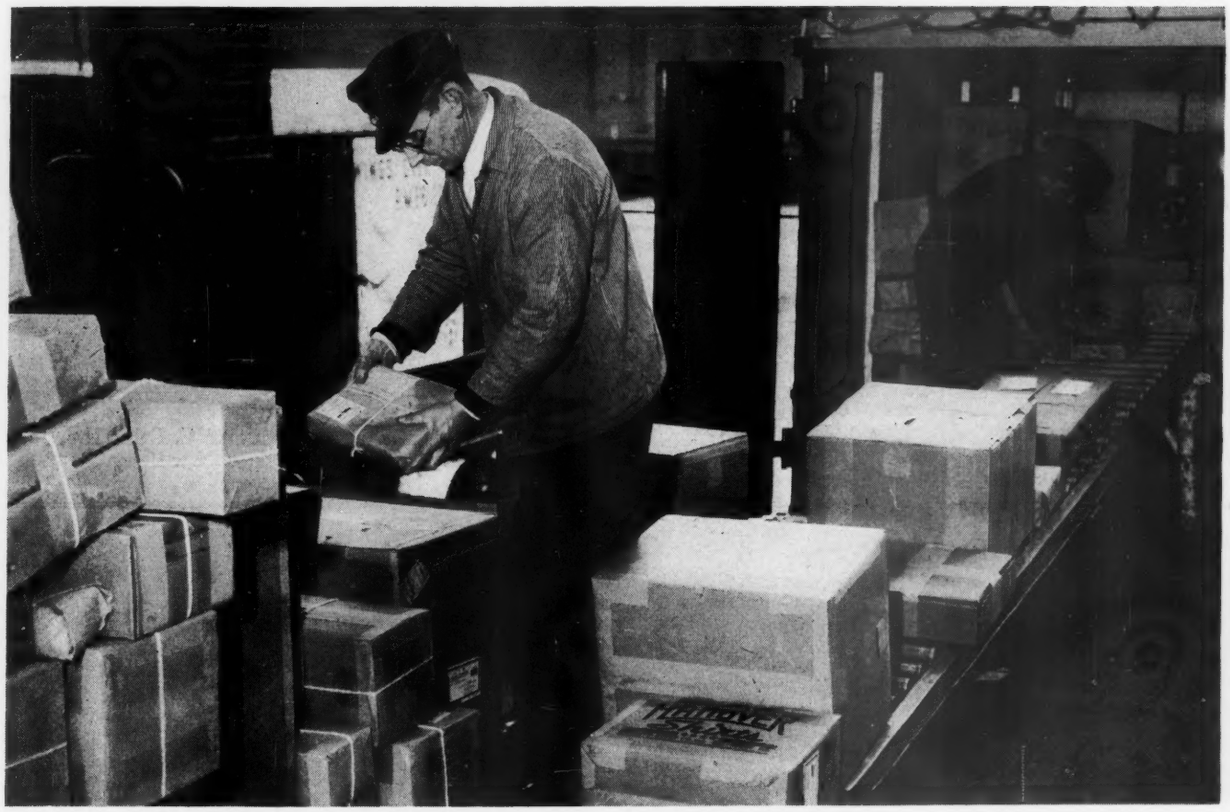


UNIT LOAD HANDLING was used more widely at freighthouses.

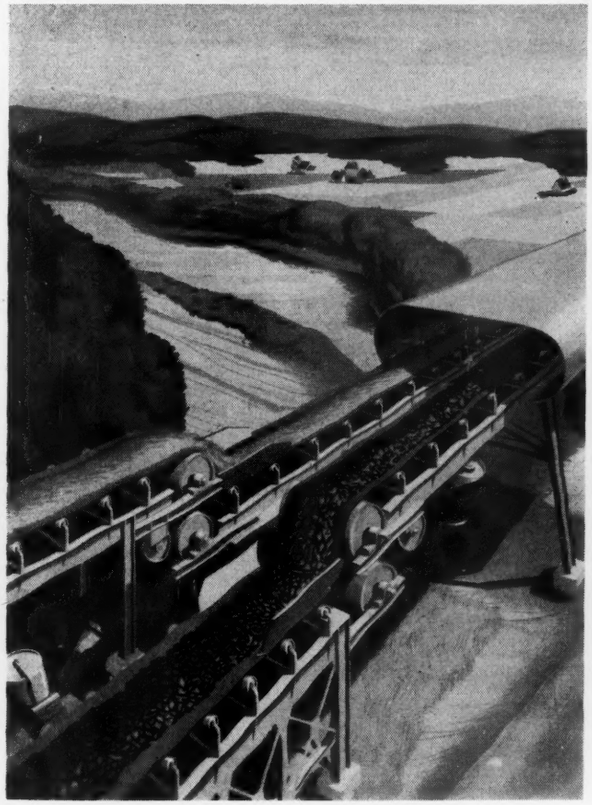
FREIGHT CLAIM PAYMENTS were greater in amount but less in proportion to freight revenues in 1951's first half

HIGHWAY TRAILERS ON FLAT CARS were lucrative traffic for several fortunately situated railroads

EXPORT COAL MOVEMENT was record-making, especially at the port of Hampton Roads



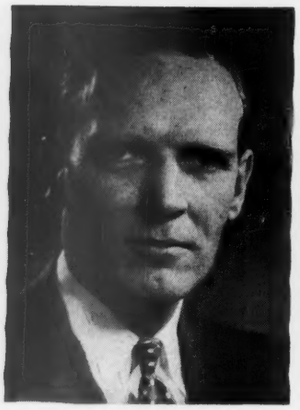
RAILWAY EXPRESS prospects brightened as rate increases were permitted and weight restrictions and higher postage charges were applied to parcel post shipments



THE RIVERLAKE BELT CONVEYOR proposal was turned down by the Ohio legislature

U. S. MAIL rates were boosted in 1951, but much mail tonnage was diverted to contract truckers

SEVEN NEW PRESIDENTS ELECTED



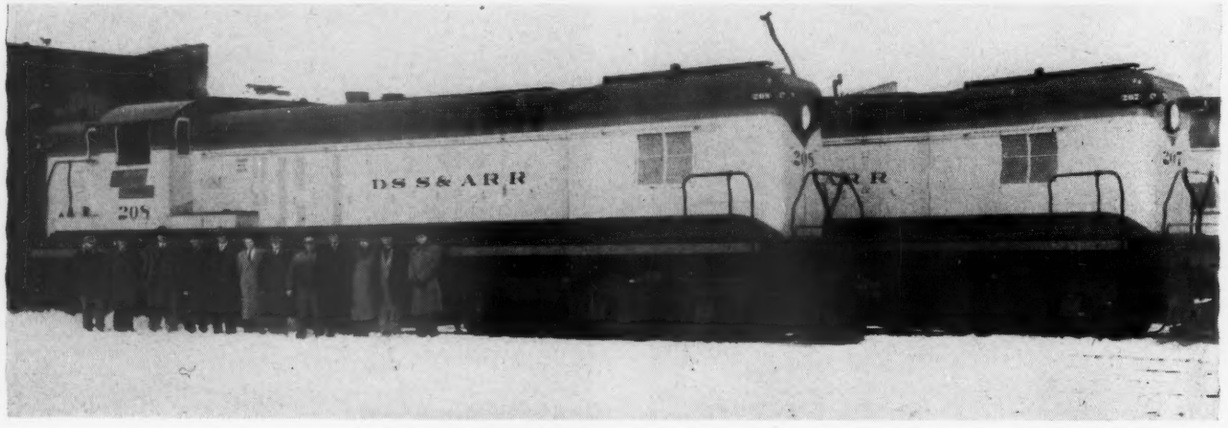
John M. Budd
Great Northern

Harry A. DeButts
Southern

Frederic C. Dumaine, Jr.
New Haven

ELECTRO-MOTIVE's B. A. Dollens (left) turned over that plant's 10,000th diesel to Wabash President Atkinson

AMERICAN LOCOMOTIVE - GENERAL ELECTRIC continued locomotive output while taking on war work



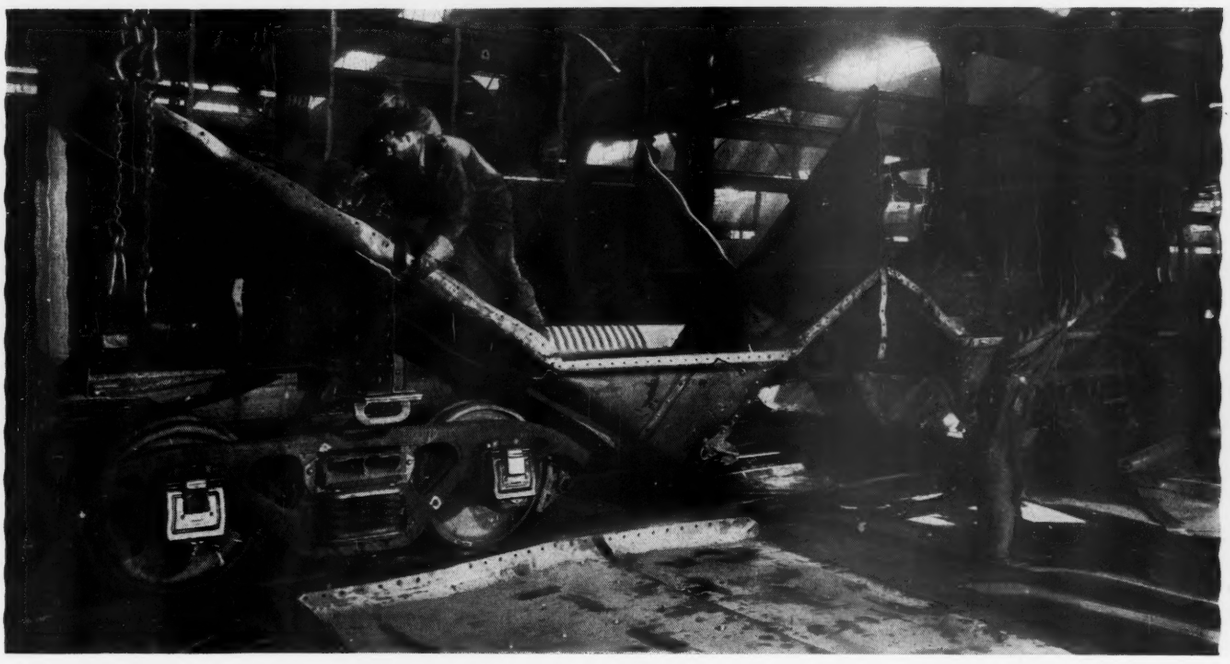
FULL DIESELIZATION was achieved by more railroads in 1951. On the Duluth, South Shore & Atlantic this came with delivery of three 1,600-hp. Baldwin-Lima-Hamilton units

Joseph A. Fisher
Reading

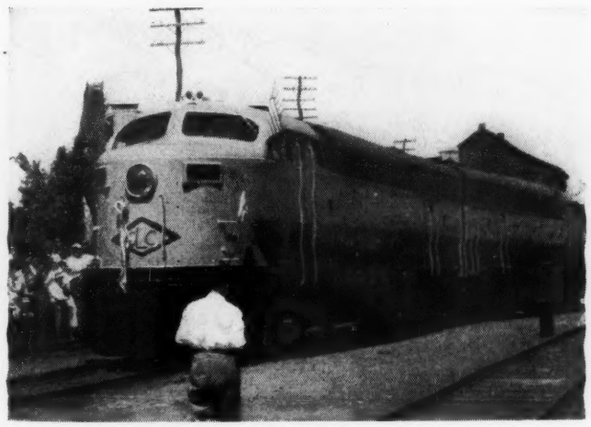
Harold J. McKenzie
St. Louis Southwestern

Donald J. Russell
Southern Pacific

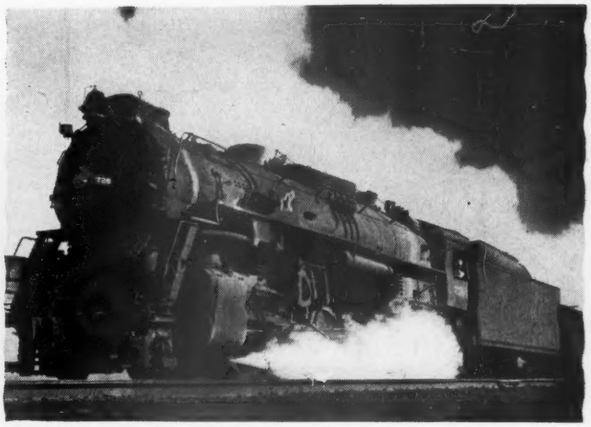
Ben J. Tarbutton
Central of Georgia



CAR BUILDING records were set despite material shortages. *In May and June* Pullman-Standard produced freight cars at a 3,000-per-month rate

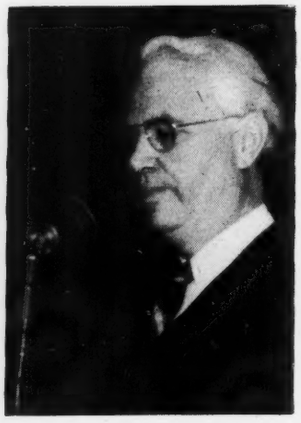


FAIRBANKS-MORSE opposed-piston power was introduced to Canada by the Canadian Locomotive Company

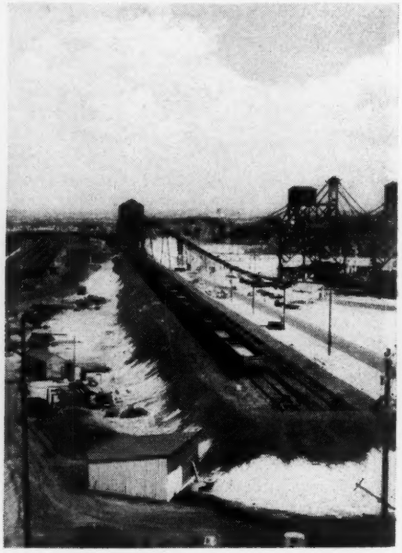


STEAM POWER continued to carry out big assignments in freight movement on such roads as the Nickel Plate

FASTER SERVICE FOR SHIPPERS resulted from big expenditures for new facilities, like the John Sevier yard at Knoxville

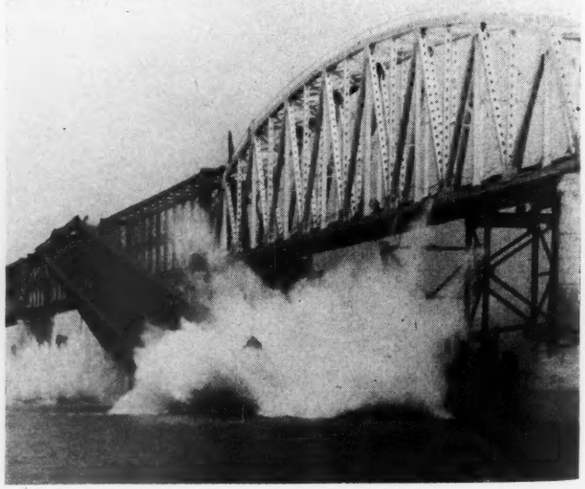


OHIO'S SENATOR BRICKER appraised the railroads' financial plight



ORE IMPORTS required new structures, as on the B. & O. at Baltimore

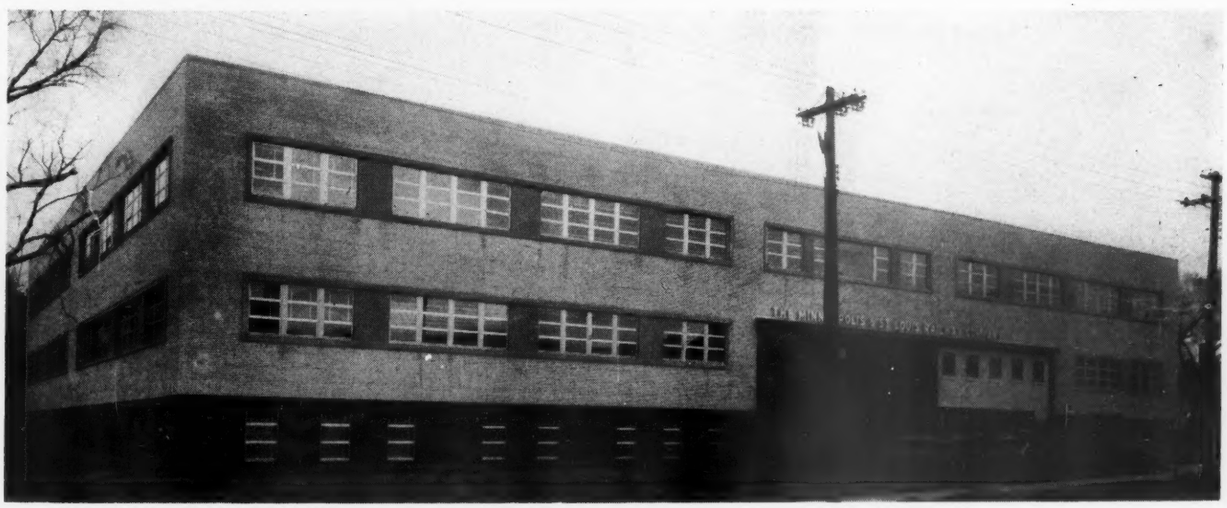
A MAJOR NEW RAILROAD—The Quebec, North Shore & Labrador—began to take form



REPLACEMENT of obsolescent structures continued, as on the Illinois Central at Cairo, Ill.

THE NEW LOOK for passenger stations was exemplified in the Burlington's reconstruction of its Ottumwa, Iowa, station, among others

FUNCTIONAL DESIGN characterizes the new year-round air-conditioned, almost windowless office building of the Toledo, Peoria & Western



NEW HEADQUARTERS building completed for the Minneapolis & St. Louis in Minneapolis, also reflects the new architectural trends

PROGRESS IN SIGNALING AND RADIO

SLOPING CONTROL PANEL is a novel feature of a new interlocking machine installed by the Norfolk & Western at Roanoke

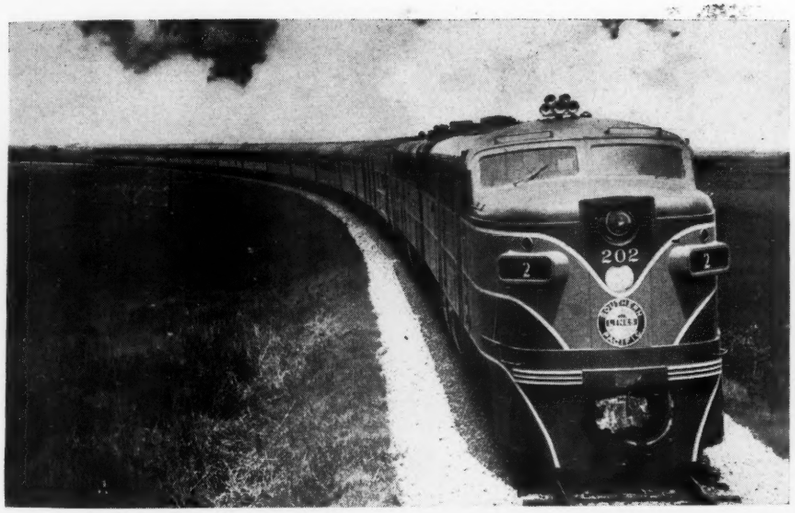
CENTRALIZED TRAFFIC CONTROL permitted the Erie to take up 60 miles of second track

FOUR-TRACK INTERLOCKING remotely controlled by new two-wire code system on the New York Central

RADIO TRAIN COMMUNICATION was installed on roads in all parts of the country

PUSH-BUTTON SWITCHING takes care of classification to 46 tracks in the Southern's new yard

MORE COMFORTS FOR 1951 PASSENGERS



NEW "SUNSET LIMITEDS" went into service on the Southern Pacific accompanied by introduction of "Sunset pink" to the fashion world

TREAT FOR LONG-DISTANCE TRAVELERS was the private dining room of the Santa Fe's newly equipped "Super Chief"

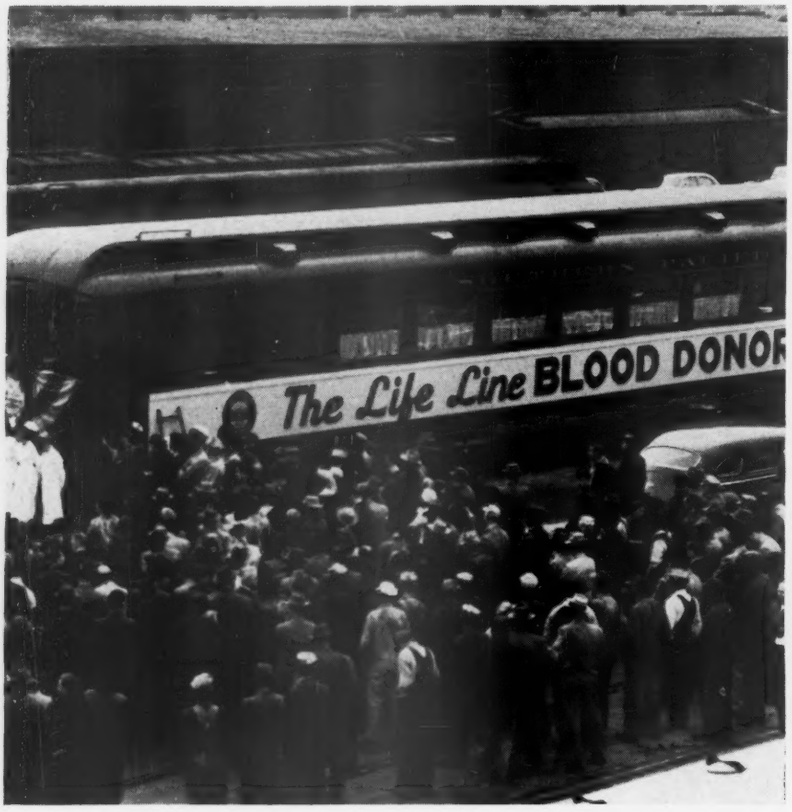
COMMUTER CARS took new styles, as these Burlington "gallery" coaches

DISTINCTIVE DECOR marked the interior design of 1951 streamliners like the "Empire Builder"

BUDD RAIL DIESEL CARS saw wider use; this one on the New York Central has a post office compartment

MICROFILMING of vital documents was an important 1951 economy

OFFICE MECHANIZATION, as with tabulating equipment, continued to speed paperwork and simplify a variety of accounting procedures



BLOOD DONOR CARS were welcomed in many communities in sparsely settled areas reached by cooperating western railroads

"GET ACQUAINTED" days for schools helped better public relations

NEW STYLE TICKETS were tested in the search for better service tools

WESTERN RIVERS WENT RAMPANT causing record damage in Kansas and Missouri; railroads restored their own facilities at great expense

STEEL SCRAP, much in demand, came from old cars and locomotives

SHORT LINES kept busy; several were absorbed by Class I roads

MECHANIZATION OF TRACK WORK made further advances as new and improved machines were put in service, with important savings

Faster handling of freight at terminals requires faster procedures for determining proper rates

What Tariff Simplification in 1952?

By CHARLES S. BAXTER
Chairman, Railroads' Tariff Research Group

For Research Group, year will be one of intensive activity; also it will bring forth new and simpler class-rate tariffs, and see much progress on job of incorporating general increases into basic rates

Amongst organizations in the transportation field the Railroads' Tariff Research Group is unique.

Though its expenses are borne entirely by the railroads, it was jointly conceived by shippers and the railroads and draws its direction and normal support from both sources. It is charged by these groups with the duty of finding out how freight tariffs can be improved so that rates and other tariff information may be developed more quickly and with greater accuracy. The joint character of its conception and support augurs well for its success.

The activities of the group in 1951 can be reviewed very briefly. The organization came into existence on September 1, 1951. Its organization is small and its organizational set-up simple. It has analyzed the broad problem of tariff complexity and from that analysis has charted a detailed program for a critical study of each of the numerous individual elements of the tariff structure. It has extended an open and continuing invitation to all tariff users to make their criticisms and preferences known. Finally, it has completed arrangements for taking samplings of tariff user sentiment on many specific questions from the principal tariff-using groups in the employ of the railroads and shippers.

With these primary steps behind it the group faces a new year of intense activity as it proceeds with its surveys and studies.

The "outlook" for 1952 from our vantage point is quite another chapter. It ill becomes a researcher—and certainly no researcher faithful to his calling would fall into the error—at the beginning of his work, to hazard predictions as to what his diagnosis will turn up and the remedies he will prescribe. We can, however, in all professional honesty, summarize some of the tariff irritants condemned by overwhelming numbers of our tariff user contributors, and speculate a little about the losses in productivity and efficiency charged to these alleged faults in tariff make-up. Some authorities estimate these losses as running into millions of dollars.

Personnel in the freight station and accounting departments of the railroads, and in the traffic departments of shippers, laid great stress upon the importance of absolute uniformity in the language and arrangement of tariffs. A tariff user domiciled in Western Trunk-Line territory declares that he feels perfectly at home in a tariff of Agent Kipp because he uses these issues with much frequency and has achieved a familiarity which makes him feel sure of himself and enables him to dig out the information he desires with a limited number of direct and certain steps. But, says he, when he much less frequently opens the tariffs of the issuing agents or railroads in other territories, his efficiency and self-confidence are set back by the differences in the location and arrangement of the rates and narrative matter, differing captions above items, and slight differences in the wording of common rules and other more or less standard provisions. He wants to know why there must be so much individualism between agents and railroads in the matter of form, arrangement, and language, and insists that he could do better work and more of it if these things could be standardized.

Tariff Individualism Too Dear

Behind the statements of these men—the men who make their living digging out rates—comes industrial traffic managers, local freight agents, and railroad freight accounting officers, who insist that management is paying, in lost productivity and lost efficiency, much too high a price for this kind of rugged individualism; that critically short skilled manpower is being used extravagantly; and that the crying need of the hour is for a standard tariff pattern with standard language, to which all issuing sources must conform, both now and forevermore.

Our preliminary examinations of tariffs issued by several agents demonstrate that the field for standardization is fertile and certain to produce rich rewards. We are addressing ourselves to this phase of our program most earnestly.

Tariff users who have thus far spoken out are unanimous in their condemnation of the rate alternations with which our present group of tariffs virtually abound.

The time was when a rate clerk had but one search to make in his pursuit of an applicable rate, and that search involved merely finding the tariff which named class or commodity rates between the origin and destination of his shipment. Nowadays, that is merely the first of several complex and time-consuming steps the dutiful rate clerk must take.

Tracking Down the Applicable Rate

If he starts with a commodity tariff he generally finds tucked away in what seems to him an excessive amount of purely narrative matter a rule to the effect that if a class rate on the commodity in question makes a lesser charge, the class rate, and not the commodity rate he has already checked, is the applicable one. He must then consult first the freight classification, then the exceptions to that classification, before he sets out on his search for the tariff naming the class rates. Before he gets through with this chase he may turn up two sets of rates subject to different minimum weights, with a provision that the one which produces the lowest charge depending upon the weight of each individual shipment is to be applied.

The Author

But even before he tests the class rate there is a strong likelihood that his commodity rate tariff is gotten up on the multiple section plan with rates on his commodity in two or more sections tied into intermediate rules. This compels him to check out his rate in each section and abide by the authorized provisions for alternation before he may consider that the first step in his pursuit of the applicable rate has been completed.

Additionally, many of these tariffs also contain minimum and maximum rate provisions which may take precedence over any other rates in the tariff, but each of these steps must be taken in the proper sequence before that can be determined.

If import or export traffic is involved consideration must be given to authorized alternations between domestic class and commodity rates and shipside charges on the one hand and specifically labeled export or import rates on the other.

Next, a check must be made to find out if so-called "all commodity" rates are in existence and, if so, what they are and whether or not they alternate with other rates developed up to this point in the project.

Long Run in Low Gear

But wait! He is still in low gear, and nowhere near the end of his journey. Either in the commodity rate tariff or the class rate tariff he discovered a provision which said, in effect, that neither the class rate nor the commodity rate he has so patiently pursued and thought he had found can be applied if it is possible to check out some lower figure as the combination of local rates constructed over any one of perhaps a thousand points between his origin and his destination. This throws the door wide open and produces a doubt as to the accuracy of whatever rate is finally checked which cannot reasonably be dispelled.

In this process alone the diligent rate clerk may be

forced to consult as many as 10 to 25 different tariffs, especially when the movement in question is of more than average length and interterritorial in character. Railroad freight station and accounting people tell us that rate alternations alone are the greatest time consumers and the largest producers of error in the entire tariff make-up.

It would serve no useful purpose at this time to dwell upon the reasons for the myriad of alternations with which the tariff users must contend. It is sufficient to say that as long as they exist we cannot have an acceptable degree of tariff simplification. Ways must be found to eliminate them—and those ways must be less cumbersome and less expensive than living with them—a truly difficult and challenging project.

Big Tariffs vs. Little Ones

Another common complaint is that there are too many tariffs—too many potential sources of the desired information. The remedy urged is reduction in total tariffs through consolidations. In appraising the suggested remedy it must be kept in mind that the larger tariffs are alleged to be our most complex ones, and it may require the wisdom of a Solomon to decide whether a smaller number of big tariffs vs. a larger number of little tariffs is the lesser of the two evils.

In the early part of this New Year of 1952 the Tariff Research Group will, as to these and other more basic and fundamental tariff problems, devote most of its time and energies listening to the views of tariff users and analyzing what they have to say. As the year progresses many of our studies will culminate in reports and recommendations to the committees which have jurisdiction over us. Following that, the reforms which we will advocate will be reflected in the freight tariffs by progressive adoption as tariffs are reissued. In the circumstances it is not likely, as a physical possibility, that our stewardship can be reflected to any significant extent in tariffs issued in 1952. In 1953 it could well be a different story.

Customers want expedited service on the road and in the office

Some Simplification in 1952

So much for these items which may be considered as typical of fundamental or basic elements of tariff complexity and to get on with something less fundamental and which holds promise of early solution.

In its initial decision in Docket No. 28300 the Interstate Commerce Commission prescribed a temporary or interim schedule of class rates for application throughout all of the United States located east of the Rocky mountains. By the terms of the order the prescribed rates were to be applied only upon traffic moving at the ratings provided in the Consolidated Freight Classification, the older then existing systems of class rates to be continued on traffic moving at ratings set out in various exceptions to classification. As the result of this decision tariff users in the affected territory have had to contend with a dual system of class rates since August 22, 1947. It would be hard to conceive of anything more time-consuming or provocative of error than the processes made necessary under these schemes of rates.

During the year just ended the commission released its final decision in this case, along with a decision in the companion proceeding, Docket 28310, ordering the creation of a uniform classification to govern the new class rates. The new classification and tariffs containing the new class rates will be filed early in 1952, to become effective on June 1, 1952.

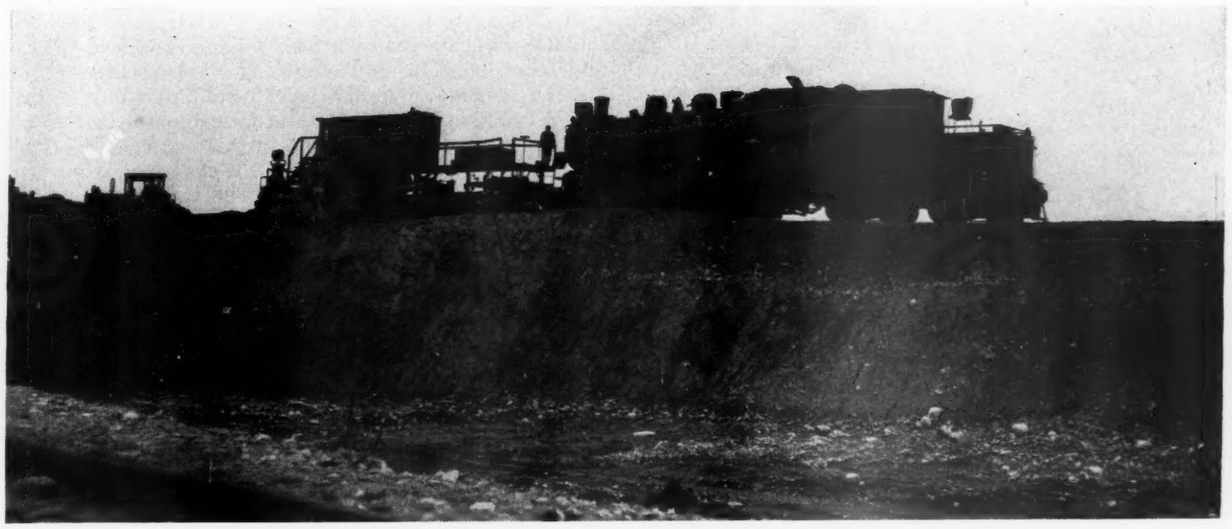
In drawing up the new uniform classification special attention has been given by the railroads to the obvious desirability of eliminating many more or less common exceptions ratings by incorporating comparable ratings in the new classification proper. Hence it can be expected at the outset that the new class rates will apply to a considerably larger body and volume of traffic than was subject to the interim class rates which they will supersede.

Moreover, the new class rates will be published in a total of only 12 tariffs covering the entire territory located east of the Rocky mountains. Before this new year is half finished management will begin to secure a greater and higher quality productivity from tariff users in its employ.

The other postwar item of complexity stems from the necessity of having to add the several general rate increases to the prewar rates which still remain in many of our tariffs. This, too, is also a time-consuming process and one productive of a high degree of error in the result.

This year 1952 could well be the year of greatest progress in working our way out of this unsatisfactory situation. The new class rates just referred to will include all of the authorized general increases up to the surcharges authorized in Ex Parte No. 175, which by itself is a long step in the direction of simplification. Additionally, a publishing agent covering an important territory is reissuing his tariffs containing the older systems of class rates to reflect the increased rates in the published figures. As to other tariffs, all publishing agents and issuing officers are adhering to a definite program for bringing forward in new tariffs and supplements rates which reflect in one figure the basic rate and the permanently authorized general increases.

These two movements—the new class rates and the absorption of general increases into the basic rates—insure estimable progress in the direction of tariff simplification during 1952.



1951 Capital Outlays, at $1.4 Billion, Set Record

By WALTER J. TAFT
Washington Editor

All-time high was 32.6 per cent above 1950 level and 8.4 per cent above previous annual peak reported for 1949—This year's expenditures may cross $1½ billion mark

Last year's gross capital expenditures of the Class I railroads were at an all-time peak of more than $1.4 billion. This was an increase of 32.6 per cent above the 1950 total of $1.07 billion, and it topped by about 8.4 per cent the previous peak of $1.3 billion reported for 1949.

The outlook for 1952 is that total outlays for new equipment and fixed facilities may well cross the $1½ billion mark, thus making 1951's term as record-holder a short one.

Last year's expenditures, no doubt, would have crossed this $1½ billion mark if materials had been available to carry out railroad programs. Like conditions may be expected to prevail in 1952, for the situation remains one in which supplies of materials and manpower, rather than railroad budgets, largely will determine expenditures.

The estimate which put the gross capital expenditures of 1951 at more than $1.4 billion (the exact figure is $1,413,156,000) was based on actual expenditures for last year's first three quarters and estimates for the fourth quarter, as reported by Class I line-haul roads to the Interstate Commerce Commission. It was given by the commission's Bureau of Transport Economics and Statistics in the December 10, 1951, issue of the bureau's "Monthly Comment." The fourth-quarter estimates did not include returns from four roads which made third-quarter expenditures of $13.8 million.

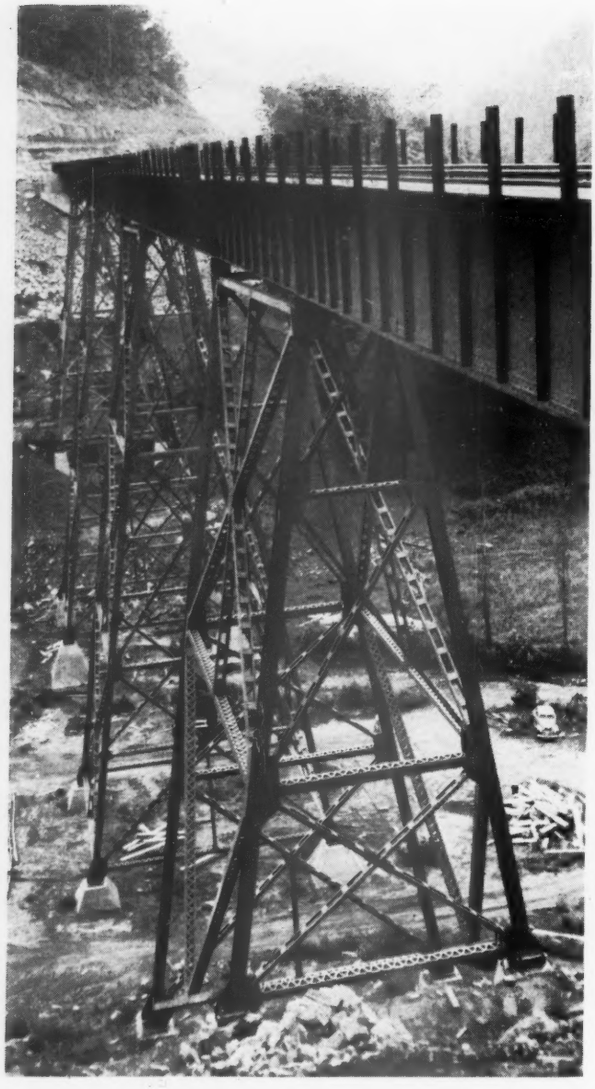
The 1951 total of $1,413 million included $1,062 million for equipment and $351 million for road—increases, respectively, of 36.2 per cent and 22.6 per cent above the comparable 1950 totals, which were, in turn, $779 million and $286 million. Incidentally, the 1951 equipment total was only $3 million less than the 1950 total for both road and equipment.

Actual outlays during last year's first three quarters totaled $999 million, including $752 million for equipment and $247 million for road. The estimated fourth-quarter expenditures were $298 million, including $206 million for equipment and $92 million for road. The third-quarter expenditures of the four roads which did not submit fourth-quarter estimates included $9.1 million for equipment and $4.7 million for road.

Little Equipment Leased

The reported expenditures and estimates for 1951 take no account of equipment leased from the Equitable Life Assurance Society on a monthly-rental basis. Reports to the I.C.C. indicate that relatively little use was made of that arrangement last year. The only 1951 contract filed with the commission up to mid-December was entered early in the year (February 1) and it involved 1,000 hopper cars. Also filed last year were some late 1950 contracts which involved the leasing of 1,450 freight cars and one diesel-electric locomotive.

As for 1952, only the estimates for its first quarter had been submitted by the railroads when the December "Comment" was issued. They indicated that this year got under way with gross capital expenditures on a level 27.4



Heavier structures for modern loads and speeds

per cent above those of last year's first quarter—$359.5 million as compared with $282 million. The former is a 127-road figure, while the latter is a 131-road total.

The breakdown of the $359.5 million indicates that $276.1 million of it will be spent for equipment and $83.4 million for road. These would be 28.3 per cent and 24.2 per cent, respectively, above the 131-road figures for last year's first quarter.

About $1.3 Billion for Equipment

The prediction that 1952 expenditures may well cross the $1½ billion mark was based on programs under way as the year began. The freight car program still has its goal of 10,000 cars per month, and 1950 closed with a backlog of orders for more than 1,800 locomotives.

At an average cost of about $5,500 per car, the freight car program contemplates 1952 expenditures totaling $660 million. As to the locomotive program, *Railway Age* has obtained from authoritative sources estimates indicating that it, too, was on something like a $660 million basis. Thus the equipment program alone, if its goals are achieved, would involve 1952 expenditures totaling about $1.3 billion.

As to the prospects for achieving the goals, the Defense Transport Administration, in reporting on the first year of its operations, said it appeared that a "better understanding" of the freight car program had been established. D.T.A. also said that it was engaged in a continuing undertaking "to prove and keep proved the vital necessity of this program"; and it expressed hope that railroad steel requirements "will be more fully met in the ensuing months."

Also, the National Industrial Traffic League gave further attention to the matter last month. It called upon the Defense Production Administration to provide for the railroad programs larger and even-flowing allocations of steel. "The all-out production which government is urging of industry and agriculture will be of little avail if the supply of cars and locomotives is inadequate," the league warned.

As for the "road" expenditures, if they should total no more than last year's $351 million they still would combine with the $1.3 billion equipment program to make 1952 better than a $1½ billion year. Expenditures for

Table 1—Selected Balance Sheet Items—Class I Line-Haul Railways

Year	Cash and Temporary Cash Investments (000)	Total Current Assets (000)	Total Current Liabilities (000)	Excess of Current Assets over Liabilities (000)	Total Long-Term Debt (000)	Total Corporate Surplus (000)
1929*	$677,955	$1,717,953	$1,200,984	$516,969	$11,138,121	$5,029,171
1930*	592,071	1,510,975	1,162,170	348,805	11,174,816	4,577,730
1931	419,510	1,213,350	1,147,239	66,111	11,153,678	4,395,508
1932	379,136	1,063,271	1,130,731	67,460	11,247,777	4,094,531
1933	394,117	1,034,560	1,261,382	— 226,822	11,112,005	3,900,883
1934	380,212	1,058,326	1,571,326	— 412,995	11,041,472	3,714,302
1935	439,403	1,086,467	1,670,767	— 584,300	10,821,788	3,507,220
1936	578,343	1,292,421	1,885,574	— 593,153	10,452,266	3,349,889
1937	392,486	1,143,990	1,937,830	— 793,840	10,686,814	3,126,391
1938	480,550	1,120,968	2,243,961	—1,122,993	10,558,723	2,739,742
1939	578,359	1,292,705	2,555,903	—1,263,198	10,352,646	2,563,879
1940	680,400	1,442,142	697,200†	744,942	11,288,311†	2,474,249
1941	904,600	1,914,544	1,115,320‡	799,224	11,186,063	2,666,625
1942	1,736,933	3,065,093	1,806,030	1,259,063	10,879,476	3,167,986
1943	2,807,275	4,497,065	2,923,078	1,573,987	10,462,770	3,748,508
1944	2,753,560	4,488,042	2,844,042	1,643,832	9,830,186	4,327,893
1945	2,545,909	4,345,830	2,108,245	2,237,585	9,286,001	4,608,846
1946	1,950,874	3,494,260	1,584,433	1,909,827	9,093,281	4,638,958
1947	1,908,887	3,575,914	1,942,772	1,633,142	8,831,806	5,174,106
1948	1,947,046	3,675,819	2,065,928	1,609,891	8,960,451	5,702,948
1949	1,570,636	3,067,146	1,696,558	1,370,588	9,154,027	5,949,064
1950	1,930,429	3,758,429	2,226,694	1,531,735	9,280,901	6,448,771
1951	1,698,779	3,575,908	2,191,519	1,384,389	(1951 totals are Sept. 30)	

*Switching and Terminal Companies included.
†In 1940 and thereafter long-term debt in default is included in long-term debt. In years prior thereto it is included in current liabilities. Likewise in 1940 and thereafter defaulted interest is removed from current liabilities to deferred liabilities.
‡Tax liability included in 1941 and thereafter.

road facilities, of course, should be substantially in excess of such expenditures last year, as indicated by the first-quarter estimates which put them up 24.2 per cent.

Like those of 1951, these 1952 programs have been framed on the basis of the railroads' determination to keep prepared for any transport job—civilian or defense—which may become their assignment. Nevertheless, railroad executives have continued to warn that the level of earnings will determine the ability of the industry to continue these programs. Such warnings, like those sounded at the close of 1950, were included in messages received by the New York Railroad Club on the occasion of its annual dinner, which was held December 6, 1951.

The message from President William T. Faricy of the Association of American Railroads called attention to the improvement and expansion programs carried out since the end of World War II, "at a cost of more than six billion dollars." But, Mr. Faricy added, such programs "require earnings which will produce revenues sufficient not only to meet current operating costs, but also to attract the investments that are needed to maintain and even accelerate" the outlays for improvements.

"By any standard of measurement," the A.A.R. president also said, "it is obvious that present earnings are falling far short of what is needed to enable the railroads to be kept in the strength and health to provide the kind of service the nation needs now and in the future to meet the expanding demands of commerce and the national defense."

The message from President Gustav Metzman of the New York Central warned that the "present low level of railroad earnings will not support the ambitious betterment projects which are required of the railroads in the public interest." After proceeding to call for earnings on a 6 per cent basis as a "minimum fair return," the Central president added:

"We must not be lulled into complacency by the multi-billion-dollar modernization program carried out by the railroads since the end of World War II. These betterments have been financed largely out of wartime earnings, now well depleted, and by the sale of equipment obligations, which automatically pledge a share of future revenues for repayment. Clearly, the limits of financing from these sources are in sight."

Table 2—Changes in Cash and Current Assets of Individual Large Railroads*

	Cash & Temporary Cash Investments Sept. 30		Inc. or Dec.	Total Current Assets		Total Current Liabilities		Excess of Current Assets over Liabilities		Inc. or Dec.
	1951	1950	%	End of Sept. 1951	End of Sept. 1950	End of Sept. 1951	End of Sept. 1950	End of Sept. 1951	End of Sept. 1950	%
A. T. & S. F.	$120,048,066	$145,449,078	− 17	$224,772,434	$234,758,755	$116,408,319	$112,238,068	$108,364,115	$122,520,687	− 11
A. C. L.	13,433,250	18,493,445	− 27	47,685,572	43,007,645	30,284,166	21,886,311	17,401,406	21,121,334	− 18
B. & O.	51,696,702	58,204,846	− 11	111,521,351	108,091,699	61,367,741	57,729,675	50,153,610	50,362,024	....
B. & M.	13,772,822	18,864,471	− 27	29,132,047	30,900,780	18,322,568	17,990,320	10,809,479	12,910,460	− 16
C. of Ga.	3,050,527	3,876,946	− 21	12,995,807	12,551,646	7,691,463	7,139,182	5,304,344	5,412,464	− 2
C. of N. J.	3,525,842	4,715,527	− 25	17,555,460	17,534,523	13,802,594	12,373,222	3,752,866	5,161,401	− 37
C. of Pa.	1,991,912	2,791,614	− 29	7,742,777	7,925,448	3,204,150	4,050,525	4,538,627	3,874,923	+ 17
C. & O.	54,907,501	56,175,820	− 2	109,832,122	99,845,394	81,924,632	77,863,178	27,907,490	21,982,216	+ 27
C. & E. I.	4,291,900	3,839,231	+ 12	9,384,972	8,265,850	6,873,611	6,179,857	2,511,361	2,085,993	+ 20
C. & N. W.	18,965,235	22,917,018	− 17	53,158,206	54,401,018	39,007,877	37,228,337	14,150,329	17,172,681	− 18
C. B. & Q.	23,927,575	31,980,203	− 25	72,542,741	75,625,696	58,705,363	51,571,301	13,837,378	24,054,395	− 42
C. G. W.	4,419,509	6,429,143	− 31	9,534,377	11,821,965	6,795,967	7,953,897	2,738,410	3,868,068	− 29
C. M. St. P. & P.	32,552,531	52,580,638	− 38	92,278,818	104,375,024	50,840,747	48,958,887	41,438,071	55,416,137	− 25
C. R. I. & P.	31,277,910	33,875,551	− 8	68,312,676	66,887,157	40,991,409	38,096,610	27,321,267	28,790,547	− 5
C. St. P. M. & O.	1,956,041	4,281,433	− 54	7,055,278	9,135,126	6,041,625	5,919,622	1,013,653	3,215,504	− 68
D. & H.	13,868,419	10,437,453	+ 33	23,289,866	18,418,334	8,727,447	7,514,448	14,562,419	10,903,886	+ 33
D. L. & W.	13,434,195	10,480,500	+ 28	28,841,893	23,276,126	14,378,068	13,958,467	14,463,825	9,317,659	+ 55
D. & R. G. W.	29,779,377	20,531,216	+ 45	48,102,535	37,228,345	19,056,360	15,289,574	29,046,175	21,938,771	+ 32
D. M. & I. R.	13,486,683	13,783,961	− 2	22,343,914	22,010,007	21,910,220	15,904,296	433,694	6,105,711	− 93
E. J. & E.	15,338,128	22,260,155	− 31	21,014,730	27,606,158	21,573,523	19,163,144	*−558,793*	8,443,014	†
Erie	22,849,803	29,338,910	− 22	52,152,284	52,437,890	37,291,177	33,815,990	14,861,107	18,621,900	− 20
G. T. W.	2,191,333	2,208,659	− 1	11,114,302	9,725,948	9,222,836	9,664,490	1,891,466	61,458	+2977
G. N.	62,050,006	35,761,389	+ 73	106,026,810	84,478,910	50,840,560	45,532,371	55,186,250	38,946,539	+ 41
G. M. & O.	18,087,284	17,190,493	+ 5	36,126,768	35,355,504	22,232,460	21,125,467	13,894,308	14,230,037	− 2
I. C.	48,395,533	80,225,231	− 40	97,385,485	117,531,830	62,421,665	73,045,757	34,963,820	44,486,073	− 21
L. V.	12,443,171	14,194,573	− 12	24,617,626	25,059,913	14,045,606	12,638,986	10,572,020	12,420,927	− 15
L. I.	13,236,206	9,335,402	+ 42	23,301,080	18,804,626	30,946,794	23,839,318	*−7,645,714*	*−5,034,692*	†
L. & N.	48,417,068	52,788,128	− 8	94,405,235	90,035,798	46,374,694	38,973,027	48,030,541	51,062,771	− 6
M. St. P. & S. S. M.	9,895,127	8,679,789	+ 14	19,061,113	17,387,183	11,001,875	9,429,715	8,059,238	7,957,468	+ 1
M.-K.-T.	11,792,149	11,744,682	....	26,428,950	24,284,535	17,264,986	16,483,202	9,163,964	7,801,333	+ 17
M. P.	66,124,527	64,635,804	+ 2	105,016,586	98,431,088	38,324,331	34,622,669	66,692,255	63,808,419	+ 4
N. Y. C.	51,550,376	69,490,445	− 26	182,222,521	183,337,647	138,249,255	128,417,399	43,973,266	54,920,248	− 20
N. Y. C. & St. L.	21,360,704	30,989,290	− 31	44,650,071	53,525,359	34,500,000	38,111,699	10,150,071	15,413,660	− 34
N. Y. N. H. & H.	18,608,384	34,920,165	− 47	43,172,401	54,710,044	29,238,165	30,312,410	13,934,236	24,397,634	− 43
N. & W.	46,018,667	38,927,871	+ 18	88,374,558	78,272,746	48,561,361	36,987,341	39,813,197	41,285,405	− 4
N. P.	25,584,812	28,555,637	− 10	67,581,824	72,810,351	39,878,645	30,760,607	27,703,179	42,049,744	− 34
P. R. R.	119,245,950	187,851,012	− 36	280,623,363	336,401,548	142,472,678	140,738,395	138,150,685	195,663,153	− 29
P. & L. E.	6,069,059	6,291,958	− 3	15,709,775	13,996,769	15,839,084	12,359,481	*−129,309*	1,637,288	†
Reading	14,816,058	18,987,189	− 22	35,132,769	36,344,764	28,014,276	25,782,921	7,118,493	10,561,843	− 33
St. L. – S. F.	30,444,535	34,424,366	− 12	52,526,268	52,788,792	29,039,650	25,806,964	23,486,618	26,981,828	− 13
St. L. S. W.	21,720,026	15,466,718	+ 40	30,995,243	25,542,829	17,953,922	15,113,720	13,041,321	10,429,109	+ 25
S. A. L.	17,903,480	19,106,245	− 6	44,107,750	39,907,646	32,062,707	28,733,056	12,045,043	11,174,590	+ 8
Southern	45,506,288	56,277,331	− 19	87,883,001	90,860,760	66,222,987	58,859,667	21,660,014	32,001,093	− 32
S. P. System	117,982,253	148,874,197	− 21	239,205,362	252,221,331	131,058,715	126,620,160	108,146,647	125,601,171	− 14
T. & P.	19,944,423	17,879,938	+ 11	33,741,723	30,722,451	15,818,371	12,424,458	17,923,352	18,297,993	− 2
U. P.	88,599,985	107,708,940	− 18	204,238,274	199,197,854	119,782,192	115,998,130	84,456,082	83,199,724	+ 2
Wabash	17,288,208	22,967,040	− 25	30,485,748	34,737,938	26,518,656	24,376,654	3,967,092	10,361,284	− 62

*Certain capital and other reserve funds are not included.
†Current liabilities exceeded current assets in one or both years.

Railroad Financial Outlook Less Satisfactory

Higher costs, smaller net income, combine to dim prospects of improvement—Increased cost of equipment trust certificates highlights otherwise uneventful year

By GARDNER C. HUDSON
News and Financial Editor

One year ago, in reviewing the mildly encouraging developments in the railroad financial situation during 1950, the prediction was somewhat tentatively advanced that "it appears reasonable to anticipate still further improvement in the industry's financial picture in 1951." That prediction has not been borne out by the events of the past 12 months—largely because the conditions on which it was based have not been fulfilled.

Those conditions, briefly, assumed a continued high level of traffic, with some resulting decline in the relative impact of competing forms of transportation; continued ability to exercise a fair degree of control over operating costs; and satisfactory settlement of wage and rule disputes pending at the beginning of 1951.

Traffic has remained high, well above 1950 levels. But there has been no diminution, either absolute or relative, of subsidized and lightly regulated competition; operating costs, because of higher wages and material prices, have reached new all-time peaks; and settlement of wage disputes has been achieved only in part and then only upon terms saddling heavy added expense on the railroads. Modest rate increases granted during the year have been "too little and too late" to offset to any appreciable extent the higher costs.

The combined effect of those various factors—all treated in greater detail in other articles in this issue—has been to cut railroad net income far below 1950 levels—and thus to darken, at least temporarily, the hopes that were beginning to glow, however faintly, on the railroad financial horizon one year ago. Strongly indicative of the industry's deteriorating financial health were the insistence by buyers of equipment trust certificates on materially higher interest rates and the movement—rather, the lack of movement—of railroad security prices.

Uneventful Year

The darkening of the picture was by all odds the outstanding characteristic of the year, from a financial viewpoint. It was, in fact, almost the only occurrence of any importance; so far as specific developments are concerned, it would be difficult to imagine a more uneventful 12-month period for so large and important an industry.

The volume of new financing was smaller than in any year since 1943; relative to that done by other industries it was smaller than in any year since 1938. There was virtually no change in the receivership situation, and only two capital readjustments of any importance. There were only two sizable debt refunding operations, and only two major changes in capital structure from stock splits. There were, likewise, only a few changes of control or ownership.

Tables accompanying this article were prepared by Ann Ortlinghaus of the *Railway Age* staff.

On the active side, however, it should be noted that there was a sizable increase in dividend disbursements, and that the Nickel Plate successfully sold over $5 million of new common stock—the first substantial amount of such stock to be marketed by any major railroad in at least a decade and a half.

Equipment Trusts More Expensive

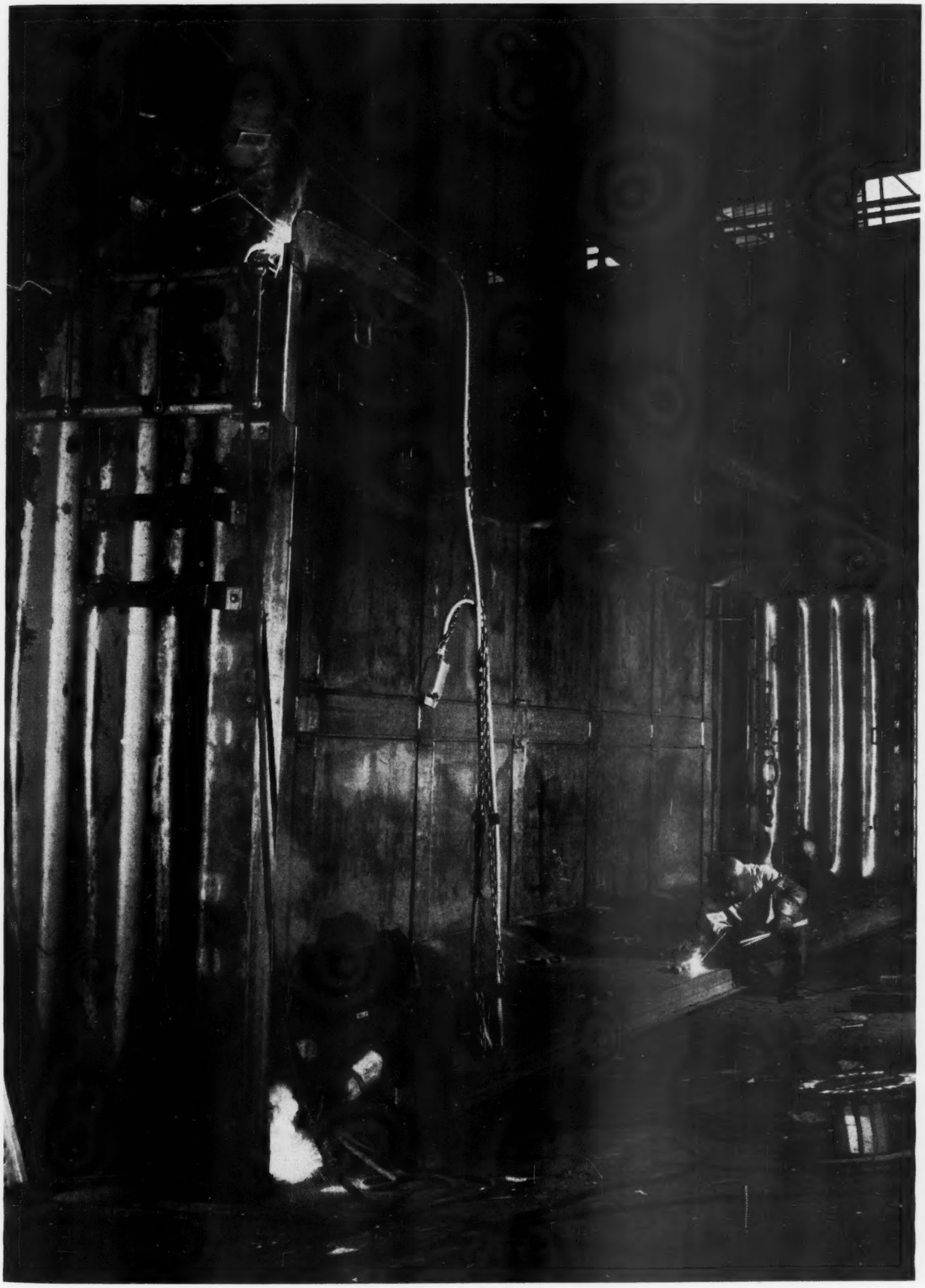
The Nickel Plate stock issue, and the various other securities issued for refunding or other purposes, are described in greater detail at the end of this article (page 164). Important features of a representative group of new equipment trust certificates are summarized in one of the accompanying tables. This table, listing 48 different issues aggregating $264,555,000, demonstrates that the railroads were still able, throughout 1951, to sell equipment trust certificates to raise money for purchase of the new locomotives and cars which they are buying in such great volume to meet the needs of both military and civilian traffic. But the table does not, by itself, indicate the higher prices which they were obliged to pay for such money.

A similar table covering representative equipment trust issues of 1950 was published on page 175 of *Railway Age*, January 15, 1951. That table listed 53 issues, totaling $270,074,000, both totals comparing closely with those in the present table. But in 1950 one railroad sold equipment certificates at an interest cost of only 1.97 per cent; the lowest cost reported for 1951 was 2.46 per cent. The most expensive issue sold in 1950 cost the issuing company 3.10 per cent; in 1951 the highest reported cost was up to 3.48 per cent.

More significant still, of the 53 issues reported in 1950, 36 were sold at an interest cost of 2.5 per cent or less; 15 at from 2.51 to 3 per cent; and only two at more than 3 per cent. In 1951, only three of 48 issues were marketed at 2.5 per cent or less; 23 cost the issuing companies from 2.51 to 3 per cent; and 22 cost more than 3 per cent.

Equipment trust certificates are still, as for some years past, the railroads' only important source (aside from earnings) of the new money which they must have to make the capital improvements which are continually necessary to handle traffic and to meet competition. The definite rise in interest rates may well raise a serious question as to how much longer the industry as a whole can continue to rely on even this source of capital funds—and what will happen if the source should dry up.

One of the potentially encouraging financial developments of 1950, incidentally, had been announcement by the Equitable Life Assurance Society of a new plan for obtaining rolling stock on a long-term lease basis—a plan used during that year by some 10 railroads to acquire use of 195 new diesel-electric locomotives and nearly 20,000 new freight cars valued at over $125,-



"New money" was still available through equipment trust certificates—although at definitely higher interest rates—for purchase of the new freight cars which the railroads put into service as fast as steel allocations permitted . . .

. . . But limited and declining earnings continued to be the only important source of funds

000,000. This plan, however, lay almost entirely dormant throughout the whole of 1951; it was used in December, when the Baltimore & Ohio leased 55 diesel freight units valued at about $9,500,000.

Another indication of public dissatisfaction with the railroad financial outlook—fully as significant as the increase in cost of equipment trust certificates—was the extremely limited movement of railroad security prices during the year. During 1950, *Railway Age's* index of 20 selected railroad common and preferred stocks rose by 37.2 per cent—from 40.88 at the beginning of the year to 56.07 at the end of the year. During 1951, in contrast, it dropped by 3.0 per cent—from 56.07 on January 2, 1951, to 54.39 on January 2, 1952. The corresponding index of 20 representative railway bonds, which had risen from 90.70 to 98.69 (8.8 per cent) during 1950, almost exactly reversed that trend during 1951: on January 2, 1952, in fact, the bond average stood at 90.92, just about where it had been two years earlier, on January 3, 1950.

It should, of course, be borne in mind that 1951 was a period of comparatively small movement in security prices in general—a fact which would tend to militate against any major swings, either up or down, in railroad stock and bond quotations. But the Dow-Jones averages, on which both railroad stocks and bonds, in 1950, recorded greater net gains than either industrial or utility securities, revealed a reversal of that situation in 1951, with railroad stocks showing smaller price increases, and "high grade" railroad bonds recording greater price declines.

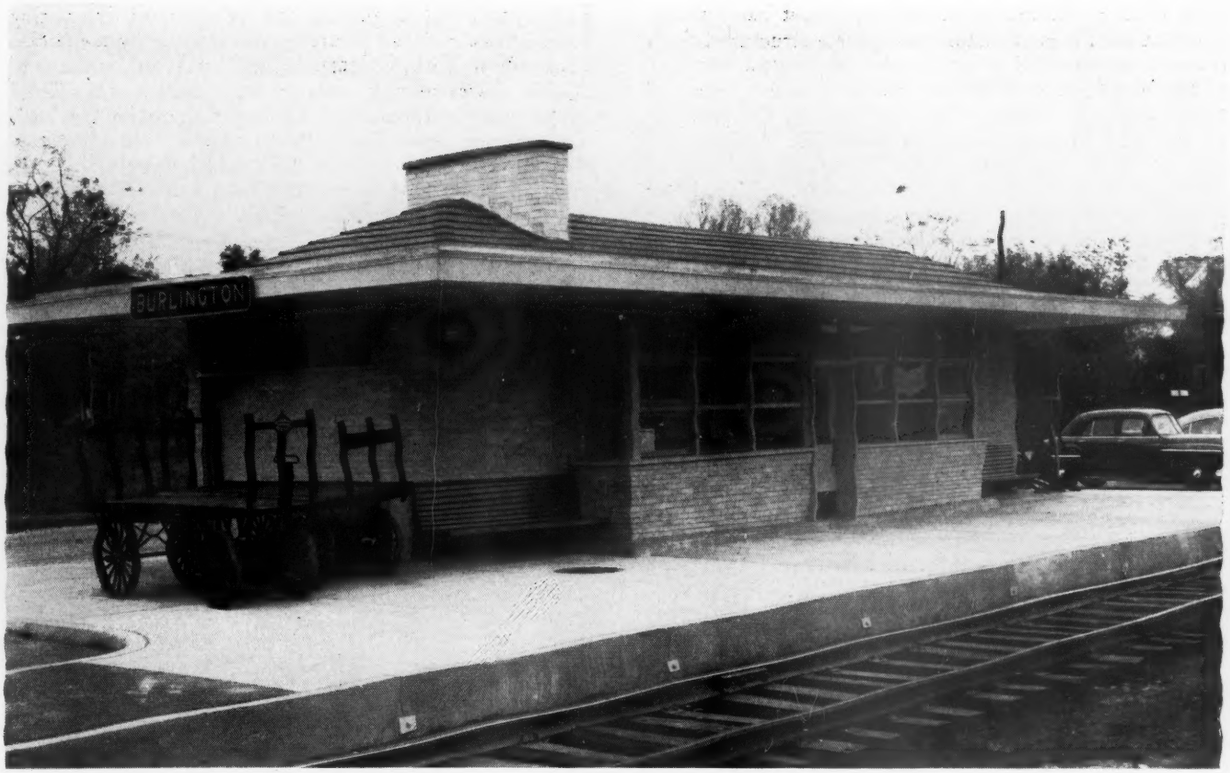
Other "straws in the wind," indicating the investing public's unreceptive attitude toward rail securities, were the withdrawal, because of "unsettled market conditions," of a Pennsylvania-Reading Seashore Lines' application for authority to issue and sell $4 million of first mortgage bonds, to be guaranteed jointly by the Pennsylvania and the Reading; and the Illinois Central's decision to await a "favorable" bond market before selling up to $25 million of consolidated mortgage bonds, authorized late in the year to meet near future debt maturities and replace depleted working capital.

Dividends

The relative immobility of railroad stock prices is all the more striking in view of the fact that the railroads as a whole pursued a dividend policy which, in the light of their declining earnings, must be considered a liberal one. Total dividend appropriations for the nine months ended with September 1951 aggregated $148,899,111 on common stocks and $69,082,211 on preferred stocks, against $123,104,723 on common and $46,637,731 on preferred in the comparable period of 1950—increases of 17.3 and 32.5 per cent, respectively.

Moreover, the table of dividend changes accompanying this article shows many more increases than decreases in individual dividends, with the total amount of increases running far ahead of the total amount of decreases. A hypothetical owner of one share of each stock listed in the table would have had considerably larger taxable income in 1951 than in 1950.

Without much question, the year's outstanding dividend disbursement was the Nickel Plate's clearance, in a single payment, of arrearages of $45 per share on its 6 per cent cumulative preferred stock—a payment which opened the way to resumption later in the year of dividends on the common stock. A number of other major companies, some of whose stocks are widely held, paid larger dividends during the year; they included such



for improvements to fixed facilities, such as yards, trucks, stations and the like

lines as the Santa Fe, the Atlantic Coast Line, the Chesapeake & Ohio, the Chicago & Eastern Illinois, the Rock Island, the Rio Grande, the Great Northern, the Gulf, Mobile & Ohio, the Louisville & Nashville, the Northern Pacific, the Pittsburgh & West Virginia, the Richmond, Fredericksburg & Potomac, the Frisco, the Seaboard, the Southern, the Texas & Pacific, the Union Pacific and the Virginian. The Chicago Great Western, the Maine Central, and the Western Maryland made a little further progress in reduction of arrearages; while the Boston & Maine, the Monon and the New Haven resumed payment on one or more classes of stock after lapses of some years. The B. & M. dividends, although declared, were not paid, pending settlement of a minority stockholders' suit.

Both common and preferred stocks of the Atchison, Topeka & Santa Fe were split on a two-for-one basis during the year, the par value of each class being reduced from $100 per share to $50. Nickel Plate common was split five-for-one, the new shares having a par value of $20 each against $100 for the old stock; while the Interstate Commerce Commission also authorized the same company to issue new preferred stock on a share-for-share basis to change voting rights and redemption provisions.

Two smaller roads, the Ashley, Drew & Northern and the Minneapolis, Northfield & Southern, were authorized to pay stock dividends—share-for-share in the former case and two shares for one in the latter.

As stated above, there were no important changes in number of companies or total mileage in the hands of receivers or trustees during the year.

The Boston & Maine and the Maryland & Pennsylvania, however, each received final I.C.C. approval for plans of capital readjustment under the Mahaffie Act. The B. & M. plan was designed to clear up back dividends and simplify the road's capital structure by issuance of new preferred or common stock for eight old issues; its approval cleared the way for declaration of still unpaid dividends—the first in many years. The M. & P. plan, designed to stave off heavy 1951 bond maturities, included extension of maturity dates, exchange of bonds, and altering of interest obligations and par value of stock.

The only important changes of ownership during 1951 were the acquisition by the Central of Georgia of the 141-mile Savannah & Atlanta, and the Great Northern's absorption of the 30-mile Pacific Coast. The Pennsylvania and the Wabash completed their previously authorized joint acquisition of the Detroit, Toledo & Ironton.

Several companies, however, were authorized to ab-

New Issues of Railroad Securities Offered for Sale in the United States, 1934-1951†

(Amounts in thousands of dollars)

Year	Bonds	Stock	Railroad total	Total all industries	Railroad as per cent of total
1934.....	$176,423	....	$176,423	$ 397,240	44.4
1935.....	126,031	....	126,031	2,331,630	5.4
1936.....	793,618	$3,838	797,456	4,571,670	17.4
1937.....	344,257	....	344,257	2,309,524	14.9
1938.....	54,873	....	54,873	2,154,664	2.5
1939.....	185,474	233	185,707	2,164,007	8.6
1940.....	323,912	....	323,912	2,677,173	12.1
1941.....	366,313	....	366,313	2,666,887	13.7
1942.....	47,726	....	47,726	1,062,288	4.5
1943.....	161,179	....	161,179	1,169,692	13.8
1944.....	609,010	350	609,360	3,201,891	19.0
1945.....	1,453,517	504	1,454,021	6,010,985	24.2
1946.....	711,119	....	711,119	6,899,646	10.3
1947.....	285,680	....	285,680	6,576,824	4.3
1948.....	623,348	....	623,348	7,077,820	8.8
1949.....	459,982	....	459,982	6,051,550	7.6
1950.....	554,100	....	554,100	6,361,043	8.7
1951*.....	223,387	5,066	228,453	6,147,583	3.7

*10 months total.
†Compiled by Securities and Exchange Commission.

sorb smaller affiliated companies—in most cases to reduce tax liabilities or simplify corporate structures. Such transactions included absorption by the Central Vermont of the New London Northern; by the Illinois Central of the Chicago, St. Louis & New Orleans; by the Reading of the East Mahanoy and the Mine Hill & Schuylkill Haven; by the Southern of the Richmond & Mecklenburg and the Carolina & Northwestern, which latter company also leased four other Southern subsidiaries; and by the Union Pacific of the Saratoga & Encampment Valley and the Laramie, North Park & Western.

As previously indicated, the year's most interesting issue of new railroad securities was the sale by the Nickel Plate (New York, Chicago & St. Louis), in January, of 33,770 shares of new common stock, which was offered to present stockholders at $150 per share on the basis of one new share for each 10 shares held—the only sizable amount of common stock sold by any major railroad in at least 14 years. The total value of the issue, which was reported to be "highly oversubscribed," was $5,065,500.

Other new security issues, exclusive of equipment trust

Capitalization and Investment—Class I, II and III Line-Haul Rail[illegible]

(Excluding Switching and Terminal Comp[illegible]
(Amounts in thousands of dollars)

Year	Net capitalization in hands of public: Capital stock	Funded debt	Total	Total property investment cash and materials and supplies	Accrued depreciation and amortization of defense projects	Net property investment
1927	$6,756,046	$11,380,645	$18,136,691	$24,589,861	$1,952,176	$22,637,683
1928	7,084,045	11,426,538	18,510,583	24,871,964	2,049,962	22,822,002
1929	7,212,586	11,467,121	18,679,707	26,492,268	2,169,737	24,322,531
1930	7,185,499	11,880,127	19,065,626	26,955,634	2,360,767	24,594,867
1931	7,111,029	11,830,431	18,941,460	26,825,724	2,520,739	24,304,985
1932	7,057,936	11,835,523	18,893,459	26,736,597	2,632,924	24,103,673
1933	7,174,773	11,656,139	18,830,912	26,523,278	2,707,943	23,815,335
1934	7,038,963	11,613,528	18,652,491	26,340,440	2,764,726	23,575,714
1935	7,001,706	11,340,591	18,342,297	26,213,134	2,771,405	23,441,729
1936	7,095,196	11,240,691	18,335,887	26,298,254	2,809,063	23,489,191
1937	7,068,863	11,250,140	18,319,003	26,401,665	2,950,848	23,450,817
1938	7,022,845	10,965,138	17,987,983	26,389,394	3,044,972	23,344,422
1939	6,990,933	10,707,225	17,698,158	26,423,591	3,102,778	23,320,813
1940	7,020,559	10,609,054	17,629,613	26,641,133	3,195,237	23,545,896
1941	7,004,290	10,563,913	17,568,203	26,940,418	3,240,145	23,700,273
1942	6,960,517	10,354,042	17,314,559	27,309,370	3,561,571	23,747,799
1943	6,921,057	9,833,925	16,754,982	27,957,306	3,939,562	24,017,744
1944	6,964,336	9,311,553	16,275,889	28,213,434	4,382,605	23,830,829
1945	7,007,707	8,659,219	15,666,926	28,580,775	5,549,720	23,031,055
1946	7,013,558	8,495,418	15,508,976	28,839,494	5,800,975	23,038,519
1947	7,001,804	8,298,971	15,300,775	29,436,287	6,037,032	23,399,255
1948	6,915,155	8,551,945	15,467,100	30,463,378	6,279,892	24,183,486
1949	6,917,979	8,690,551	15,608,530	31,111,779	6,438,177	24,673,602
1950	6,979,630	8,638,409	15,618,039	31,902,361	6,629,150	25,273,211

Figures from Bureau of Railway Economics, Association of American Railroads, and Interstate Commerce Commission Statistics of Steam Railways.

Representative Equipment Trust Issues Sold in 1951

Road	Maturity	Amount	Int. Rate %	Issue Sold at: Price	Cost	Purchaser
Baltimore & Ohio, Ser. CC	1952–1966	$7,755,000	3	99.3856	3.10	Salomon Bros. & Hutzler, et al.
Central of Pennsylvania, Ser. A	1952–1966	2,745,000	3	99.046	3.17	Halsey, Stuart & Co., et al.
Chesapeake & Ohio	1951–1966	8,550,000	2½	99.25991	2.61	Halsey, Stuart & Co., et al
	1951–1966	6,450,000	2⅞	99.203	3.00	Salomon Bros. & Hutzler, et al.
	1952–1966	6,600,000	3	99.3923	3.10	Salomon Bros. & Hutzler, et al.
	1952–1966	6,300,000	2¾	99.3917	2.85	Halsey, Stuart & Co., et al.
Chicago & North Western	1952–1966	6,555,000	2⅞	99.373	2.74	Halsey, Stuart & Co., et al.
Chicago, Indianapolis & Louisville	1952–1966	1,200,000	2¾	99.159	2.90	Halsey, Stuart & Co.
Chicago, Mil., S. P. & Pac., Ser. NN	1951–1961	5,300,000	2⅞	99.4178	3.00	Halsey, Stuart & Co., et al.
Ser. OO	1952–1966	7,500,000	2⅞	99.7306	2.92	Halsey, Stuart & Co., et al.
Chicago, Rock Is. & Pacific, Ser. J	1952–1966	5,700,000	2¾	99.708	2.80	Salomon Bros. & Hutzler
Ser. K	1952–1966	5,250,000	2¾	99.17996	2.88	Halsey, Stuart & Co.
Chicago, St. P., Minn. & Omaha	1952–1966	1,005,000	3⅛	99.226	3.27	R. W. Pressprich & Co., et al.
Denver & Rio Grande Western, Ser. Q	1951–1966	2,670,000	3	99.527	3.07	Halsey, Stuart & Co., et al.
Erie	1951–1961	5,400,000	2⅜	99.5695	2.47	Halsey, Stuart & Co., et al.
	1952–1961	5,400,000	3	99.531	3.10	Salomon Bros. & Hutzler, et al.
Great Northern	1951–1966	10,740,000	2⅞	99.439	2.96	Salomon Bros. & Hutzler, et al.
	1952–1966	16,950,000	3	99.215	3.13	Salomon Bros. & Hutzler, et al.
Illinois Central, Ser. EE	1951–1961	6,800,000	2⅞	99.259	3.04	Salomon Bros. & Hutzler, et al.
Ser. FF	1951–1966	3,600,000	2⅞	99.70	2.92	Salomon Bros. & Hutzler, et al.
Ser. GG	1951–1966	3,900,000	3	99.70267	3.04	Halsey, Stuart & Co.
Interstate, Ser. H	1952–1961	700,000	2¾	99.4826	2.88	Harriman Ripley & Co.
Lehigh & New England, Ser. M	1952–1966	1,875,000	3⅛	99.566	3.22	Halsey, Stuart & Co., et al.
Louisville & Nashville, Ser. K	1952–1966	7,[illegible]	2¾	99.691	2.82	Salomon Bros. & Hutzler, et al.
Missouri-Kansas-Texas	1952–1966	1,500,000	2¾	98.0899	3.05	Halsey, Stuart & Co.
Missouri Pacific, Ser. PP	1952–1966	7,080,000	2⅞	99.4086	2.73	Salomon Bros. & Hutzler, et al.
Montour, (Bonds) Ser. D	1952–1961	1,000,000	2.82	100.	2.82	Mellon National Bank & Trust Co.
Nashville, Chat. & St. Louis, Ser. G	1952–1966	2,415,000	2½	99.229	2.63	Halsey, Stuart & Co., et al.
New York Central	1952–1966	7,500,000	2¾	99.03	2.92	Halsey, Stuart & Co., et al.
	1952–1966	8,100,000	3⅜	99.528	3.48	Salomon Bros. & Hutzler, et al.
New York, Chicago & St. Louis	1952–1966	1,950,000	3	99.509	3.08	Halsey, Stuart & Co., et al.
Northern Pacific	1952–1966	6,900,000	2¾	99.4016	2.86	Salomon Bros. & Hutzler, et al.
	1952–1966	3,420,000	3	99.633	3.08	Salomon Bros. & Hutzler, et al.
Pittsburgh & Lake Erie	1952–1961	5,300,000	2¼	99.048	2.46	Salomon Bros. & Hutzler, et al.
	1952–1966	6,435,000	3	99.157	3.15	Salomon Bros. & Hutzler, et al.
St. Louis-San Francisco, Ser. I	1952–1966	5,085,000	2⅞	99.0269	3.05	Salomon Bros. & Hutzler, et al.
Ser. J	1952–1966	4,725,000	3⅛	99.269	3.26	Halsey, Stuart & Co., et al.
Seaboard Air Line, Ser. I	1952–1966	4,920,000	2½	99.3766	2.61	Salomon Bros. & Hutzler, et al.
Ser. J	1951–1966	2,400,000	2¾	99.038	2.90	Halsey, Stuart & Co.
Ser. K	1952–1966	8,070,000	3	99.389	3.10	Salomon Bros. & Hutzler, et al.
Southern Pacific, Ser. EE	1952–1966	12,000,000	2⅞	99.1827	3.02	Salomon Bros. & Hutzler, et al.
Ser. FF	1952–1966	10,500,000	3⅛	99.1353	3.29	Halsey, Stuart & Co., et al.
Ser. GG	1952–1966	10,920,000	2¾	99.0999	2.91	Halsey, Stuart & Co., et al.
Texas & Pacific, Ser. J	1952–1961	4,000,000	2⅛	98.389	2.47	Halsey, Stuart & Co., et al.
Ser. K	1952–1961	5,500,000	2⅜	98.191	3.03	Salomon Bros. & Hutzler, et al.
Ser. L	1952–1961	1,650,000	2⅜	98.2891	3.00	R. W. Pressprich & Co., et al.
Ser. M	1952–1961	2,900,000	2½	98.624	2.80	Salomon Bros. & Hutzler, et al.
Western Maryland, Ser P	1952–1966	3,540,000	3	99.52466	3.10	Halsey, Stuart & Co., et al.

certificates, which are separately listed in an accompanying table, included the following:

The **Chicago Great Western,** in June, was authorized to issue five 3½ per cent promissory notes aggregating $3,000,000, to be secured by first mortgage 4 per cent series A bonds. Proceeds of the notes were to be used to pay off two existing notes totaling $1,500,000 and to provide additional working capital to help meet "continuing expenditures for additions and betterments."

The **Cleveland Union Terminal,** following through on a financing plan developed in 1950, sold $40,000,000 of first mortgage bonds, dated December 1, 1950, and maturing serially from December 1, 1951, through December 1, 1966. The purpose of the issue was to pay off the company's first mortgage sinking fund gold bonds totaling $41,614,400, which were callable at 105 and accrued interest on April 1, 1951. With the new bonds bearing interest at 3¼ per cent, as compared to 4½-5½ per cent on the old bonds, the company estimated that it would realize total savings of more than $12 million from the refinancing. The bonds were guaranteed by the New York Central, the Cleveland, Cincinnati, Chicago & St. Louis (N.Y.C. lessor) and the New York, Chicago & St. Louis, which jointly own the Terminal Company. The bonds were sold to a syndicate headed by Halsey, Stuart & Co. at 99.3899, to make the average interest cost approximately 3.37 per cent, and were reoffered to the public to yield from 2 to 3.4 per cent. This issue, and that of the Western Maryland reported below, constituted the year's two major refunding operations.

Two Pennsylvania subsidiaries, the **Connecting** and the **United New Jersey Railroad & Canal Co.** were authorized, in March, to issue, respectively, $12,728,000 of first mortgage series A bonds and $5,669,000 of general mortgage bonds, liability in each case to be assumed by the P.R.R. The Connecting's bonds were sold to the Union Securities Corporation and 14 associates at 98.64, with interest at 3⅛ per cent, making the average annual cost of the proceeds approximately 3.2 per cent, and were reoffered to the public at 99.569. Dated March 1, 1951, and maturing March 1, 1976, the proceeds were to be used to retire the Connecting's first mortgage bonds due March 15, 1951. The United New Jersey issue, with interest at 2¾ per cent, was sold to Lehman Brothers and three associates at 98.4059, making the average annual cost of the proceeds approximately 2.84 per cent, and were reoffered to the public at 99.105. Proceeds were to be used to reimburse the Pennsylvania for paying off a like amount of United's general mortgage bonds due March 1.

In the year's second important refunding operation, the **Western Maryland** was authorized to issue $14,950,000 of series B general mortgage bonds, due November 1, 1976. These bonds were issued to complete the refinancing of its first mortgage 4 per cent bonds, due October 1, 1952, most of which had been refinanced by an earlier issue of general mortgage bonds due October 1, 1969 (*Railway Age*, January 15, 1951, page 178). The series B general mortgage bonds, bearing interest at 4½ per cent, were sold to Morgan, Stanley & Co. and eight associates at 98.5231, making the average annual cost of the proceeds to the road approximately 4.6 per cent.

The **Canadian Pacific** offered for sale in Canada a

Dividend Changes, 1950-1951

(Unless otherwise noted, figures apply to common stock)

	Dividends Paid 1951	1950	Increase	Decrease	
Akron, Canton & Youngstown	$5.00	$4.50	$0.50	....	
Ann Arbor	25.00	.50	24.50	....	Almost entirely owned by Wabash.
Atchison, Topeka & Santa Fe	9.00	8.50	.50	....	1951 figure adjusted on basis of 2-for-1 split.
Atlanta & West Point	2.00	3.00	....	$1.00	
Atlantic Coast Line	5.00	4.00	1.00	....	
Bangor & Aroostook	....	1.00	....	1.00	
Boston & Maine, Common	1.00	....	1.00	....	Declared, but not paid, subject to settlement of minority stockholders suit.
Preferred	5.58	....	5.58	....	
Chesapeake & Ohio	2.25	1.50	.75	....	
Chicago & Eastern Illinois, Class A	2.00	1.00	1.00	....	
Chicago & North Western, Common	....	1.50	....	1.50	
Preferred	....	5.15	....	5.15	
Chicago Great Western, Preferred	5.62½	3.50	2.12½	....	On arrears.
Chicago, Indianapolis & Louisville Class A stock trust certificates	1.25	....	1.25	....	On arrears—first since reorganization in 1946.
Chicago, Rock Island & Pacific	3.25	3.00	.25	....	
Copper Range, Preferred	1.50	.50	1.00	....	
Denver & Rio Grande Western	3.00	2.00	1.00	....	
Great Northern, Preferred	4.00	3.50	.50	....	
Green Bay & Western, Class B Debentures	10.00	....	10.00	....	
Gulf, Mobile & Ohio	2.00	1.50	.50	....	
International of Central America, Preferred	....	3.75	....	3.75	
Louisville & Nashville	4.00	3.52	.48	....	
Mahoning Coal	45.00	50.00	....	5.00	
Minneapolis & St. Louis	1.00	1.25	....	.25	
Nashville, Chattanooga & St. Louis	3.50	4.00	....	.50	
New York Central	.50	1.00	....	.50	1951 dividend payable Jan. 15, 1952.
New York, Chicago & St. Louis: Common (after 5-for-one split)	.50	....	.50	....	First payment on common in 20 years.
Preferred	51.00	34.50	16.50	....	1951 figure includes final payment on arrears of $45.
New York, New Haven & Hartford, Preferred	5.00	....	5.00	....	First payment on preferred of reorganized company declared to be payable from 1948 earnings, leaving an accumulation of $15 a share earned in 1949 through 1951.
Northern Pacific	2.25	2.00	.25	....	
Piedmont & Northern	5.00	5.75	....	.75	
Pittsburgh & Lake Erie	4.00	5.00	....	1.00	
Pittsburgh & West Virginia	2.00	1.50	.50	....	
Richmond, Fredericksburg & Potomac: Common	3.75	3.00	.75	....	
Dividend Oblig.	3.75	3.00	.75	....	
7% Preferred	3.75	3.00	.75	....	
6% Preferred	3.75	3.00	.75	....	
St. Louis-San Francisco	2.50	1.50	1.00	....	
St. Louis Southwestern, Common	6.00	5.00	1.00	....	$1 of 1951 dividend on both common and preferred declared payable to holders of record Nov. 26. Actual payment to be made after determination of controversy between preferred and common stockholders.
Preferred	6.00	5.00	1.00	....	
Savannah & Atlanta	6.00	3.00	3.00	....	
Seaboard Air Line	4.25	3.00	1.25	....	
Southern	4.00	3.00	1.00	....	
Texas & Pacific	6.00	5.00	1.00	....	
Union Pacific	6.00	5.00	1.00	....	
Virginian	3.00	2.50	.50	....	
Wabash	2.50	3.00	....	.50	
Waterloo, Cedar Falls & Northern	.70	.57½	.12½	....	
Western of Alabama	7.00	7.50	....	.50	
Western Maryland, Preferred	14.00	7.00	7.00	....	On arrears.

total of $30,000,000 of convertible collateral 3½ per cent bonds, to reimburse the company for money spent for new equipment. The bonds, offered at 100, are convertible from April 1, 1952, to April 1, 1959, into ordinary stock at the rate of 29 shares for each $1,000 of bonds, and are secured by the C.P's perpetual debenture stock.

Summary of Railroad Receiverships and Trusteeships, 1920 to 1951

	Roads Placed in Receivership or Trusteeship		Roads Taken from Receivership or Trusteeship*	
Year	No. of roads	Miles	No. of roads	Miles
1920...	10	541	7	380
1921...	14	1,744	11	4,173
1922...	12	4,330	15	6,151
1923...	10	2,218	8	637
1924...	11	920	14	3,992
1925...	6	11,368	6	638
1926...	6	88	12	12,852
1927...	6	924	5	142
1928...	1	19	4	209
1929...	3	634	5	562
1930...	4	4,752	2	1,048
1931...	19	5,195	2	102
1932...	13	11,817	8	394
1933...	18	21,222	2	298
1934...	1	81	2	40
1935...	16	29,018	5	436
1936...	4	8	3	122
1937...	23	1,937	2	179
1938...	9	6,194	8	290
1939...	3	733	4	401
1940...	..	....	6	3,675
1941...	1	25	9	5,031
1942...	4	961	7	2,230
1943...	3	23	6	394
1944...	1	....	8	13,096
1945...	1	96	5	10,833
1946...	..	....	7	4,832
1947...	2	396	14	11,535
1948...	4	29	11	9,473
1949...	2	445	3	970
1950...	..	....	2	407
1951...	..	....	..	....

*Prior to 1938 these figures covered foreclosure sales only.
For years prior to 1920, see *Railway Age*, January 15, 1951, page 177.

Mileage in the Hands of Receivers or Trustees

(Figures to 1950, inclusive, from I. C. C. Statistics for Year Ended December 31, 1950. Figures for 1951 compiled by *Railway Age*)

Year ended	Miles of road operated by receivers or trustees at close of year	Net change during year in miles of road operated	No. of roads in charge of receivers or trustees at close of year
Dec. 31, 1916.....	34,804	− 2,549*	80
1917.....	17,376	−17,428	82
1918.....	19,208	+ 1,832	74
1919.....	16,590	− 2,618	65
1920.....	16,290	− 300	61
1921.....	13,512	− 2,778	68
1922.....	15,259	+ 1,747	64
1923.....	12,623	− 2,636	64
1924.....	8,105	− 4,518	61
1925.....	18,687	+10,582	53
1926.....	17,632	− 1,055	45
1927.....	16,752	− 880	40
1928.....	5,256	−11,496	33
1929.....	5,703	+ 447	29
1930.....	9,486	+ 3,783	30
1931.....	12,970	+ 3,484	45
1932.....	22,545	+ 9,575	55
1933.....	41,698	+19,153	78
1934.....	42,168	+ 470	80
1935.....	68,345	+26,177	87
1936.....	69,712	+ 1,367	91
1937.....	70,884	+ 1,172	109
1938.....	76,938	+ 6,054	109
1939.....	77,013	+ 75	108
1940.....	75,270	− 1,743	103
1941.....	69,859	− 5,411	91
1942.....	66,904	− 2,955	87
1943.....	64,758	− 2,146	82
1944.....	50,497	−14,261	76
1945.....	39,714	−10,783	72
1946.....	34,389	− 5,325	65
1947.....	22,750	−11,639	52
1948.....	13,283	− 9,467	46
1949.....	12,679	− 604	44
1950.....	12,226	− 453	43
1951.....	12,207	− 19	43

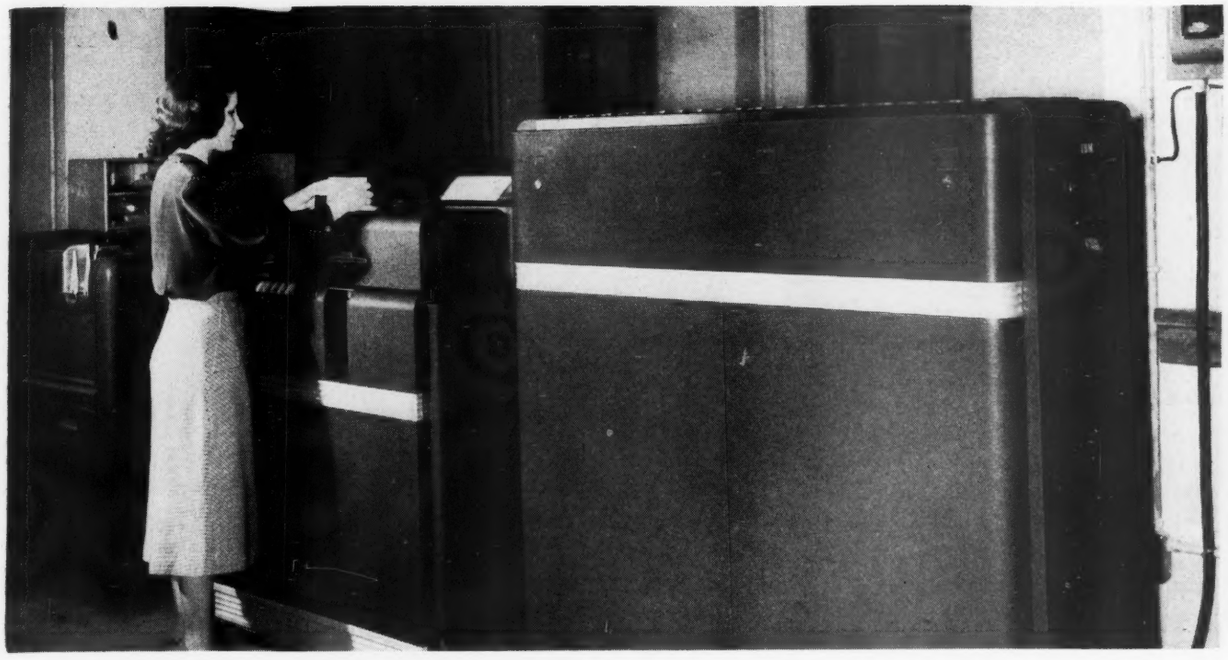
*Represents decrease for six months.
Minor discrepancies between figures in this and other tables are due to slight variations in methods of reporting.
For years prior to 1916, see *Railway Age*, January 15, 1951, page 177.

Railroads in the Hands of Receivers or Trustees on December 31, 1951

Road	Mileage operated	Mileage owned	Date of receivership or trusteeship	Long Term debt in hands of public	Capital stock in hands of public	Total securities in hands of public	Receiver's or trustee's certificates in hands of public	Principal amount of obligations in default as to principal and/or interest.
Boston & Providence	....(a)	64	Aug. 5, 1938	$2,170,000	$3,329,100	$5,499,100	None	$2,170,000
Florida East Coast	571	566	Sept. 1, 1931(b)	57,819,741	37,500,000	95,319,741	None	45,000,000
Georgia & Florida	360	355	Oct. 19, 1929	9,083,919	13,382,441	22,821,081	600,000	8,253,919
Huntingdon & Broad Top Mountain	69	69	Apr. 18, 1949	1,431,000	3,371,750	5,796,379(i)	None	1,431,000
Long Island	365	351	Mar. 3, 1949	7,621,500	None	7,621,500	None	37,500
Meridian & Bigbee River	50	50	June 15, 1933	500,000	300,000	800,000	1,263,655	500,000
Missouri Pacific	6,960	6,451	Apr. 1, 1933	375,035,293	154,639,600	529,674,893	None	332,672,000
Missouri Pacific R. R. Corp. in Neb.	....	....	May 1, 1933	(Included in Missouri Pacific)				
Boonville, St. Louis & Southern	....	0.18	June 1, 1916	5,500	None	5,500	None	5,500
Cairo & Thebes	....	25	Dec. 1, 1937	None	None	None	None	None
Chester & Mt. Vernon	....	64	Dec. 1, 1937	None	None	None	None	None
Fort Smith Suburban	....	7	Dec. 1, 1937	None	None	None	None	None
Marion & Eastern	....	3	Dec. 1, 1937	None	None	None	None	None
Natchez & Southern	12	9	Dec. 1, 1937	None	None	None	None	None
New Orleans, Texas & Mexico	196	174	Apr. 1, 1933	40,615,900	859,800	41,475,700	None	None
Asherton & Gulf	32	32	Dec. 1, 1937	None	None	None	None	None
Asphalt Belt	18	18	Dec. 1, 1937	None	None	None	None	None
Beaumont, Sour Lake & Western	146	84	May 1, 1933	None	None	None	None	None
Houston North Shore	....	27	May 1, 1933	None	None	None	None	None
Houston & Brazos Valley	37	37	Dec. 1, 1937	None	None	None	None	None
New Iberia & Northern	95	61	Dec. 1, 1937	None	None	None	None	None
Iberia, St. Mary & Eastern	....	34	Dec. 1, 1937	None	None	None	None	None
Orange & Northwestern	62	62	Dec. 1, 1937	None	None	None	None	None
Rio Grande City	21	18	Dec. 1, 1937	None	None	None	None	None
St. Louis, Brownsville & Mexico	596	560	May 1, 1933	7,292,480	None	7,292,480	None	None
San Antonio Southern	45	29	Dec. 1, 1937	None	None	None	None	None
San Antonio, Uvalde & Gulf	317	314	May 1, 1933	None	None	None	None	None
San Benito & Rio Grande Valley	115	115	Dec. 1, 1937	None	None	None	None	None
Sugar Land	50	19	Dec. 1, 1937	None	None	None	None	None
International-Great Northern	1,104	1,032	Apr. 1, 1933	51,894,445	None	51,894,445	None	44,927,700
Austin Dam & Suburban	....	2(c)	Dec. 1, 1937	None	None	None	None	None
New Jersey & New York	38	28	June 30, 1938	1,022,960	366,400	1,389,360	None	1,022,960
New York, Ontario & Western	542	340	May 20, 1937	38,867,805	58,114,043	96,981,848	None	35,606,805
Ellenville & Kingston	....	28	Nov. 4, 1948	None	None	None	None	None
Ontario, Carbondale & Scranton	....	67	Nov. 4, 1948	None	None	None	None	None
Port Jervis, Monticello & Summitville	....	38	Nov. 4, 1948	None	None	None	None	None
New York, Susquehanna & Western	120	120	June 1, 1937	13,500,507	None	13,500,507	None	12,545,608
Rio Grande Southern	172	172	Dec. 16, 1929	2,728,000	930,300	3,658,300	60,000	2,728,000
Smoky Mountain	31	29	Mar. 20, 1947(d)	None	75,000	75,000	None	None
Tallulah Falls	57	57	June 23, 1923	10,302	None	10,302	None	None
Waco, Beaumont, Trinity & Sabine	18	18	Feb. 8, 1930	330,000	1,113,000	1,443,000	None	None
Wisconsin Central	....(e)	906	Dec. 2, 1932(f)	38,424,721	17,032,700	55,457,421	None	35,771,000
Wyoming	....(g)	29	Feb. 28, 1948(h)	None	None	None	None	None

(a) Operated by the New York, New Haven & Hartford.
(b) Changed to trusteeship April 21, 1941.
(c) Yard switching tracks.
(d) Changed to receivership July 16, 1948.
(e) Operated by Minneapolis, St. Paul & Sault Ste. Marie.
(f) Changed to trusteeship October 1, 1944.
(g) Operation discontinued.
(h) Changed to trusteeship July 9, 1948.
(i) Includes notes payable, $993,629.

Note:—The effort has been made, in the above table, to list only those securities of bankrupt carriers which are actually in the hands of the investing public—and to exclude securities of one carrier held by an affiliated carrier. Where securities are held by other railways not affiliated with the issuing company, however, they are included in the above list as publicly held. Owing to the complexities of some corporate structures, the decision as to the fact of public or other-carrier ownership has perforce, in some instances, been arbitrary. The purpose has been to give a general picture of the public stake in bankrupt carriers rather than a comprehensive tabulation of legal obligations.



Many purchasing and stores accounting records are being handled on tabulating equipment, with savings in time and manpower, which is only one reason why purchase or rental of such equipment is running at a high rate

RAILROAD PURCHASES IN 1951...

Another "Highest Ever"

Reports indicate that physical volume of buying in 1951 was greater than in 1950; expenditures for time-saving machinery continue at high rate

By FRED C. MILES
and
J. W. MILLIKEN
Associate Editors

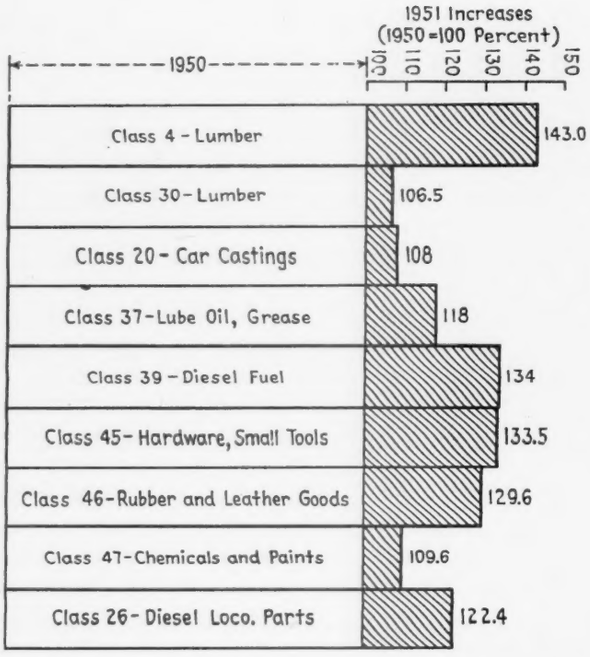
In 1951 once more the dollar volume of railroad purchases, including equipment orders, reached an all time high. Class I roads of the United States bought and ordered more than $3,438 million worth of material, supplies, fuel and equipment. Equipment orders placed added up to about $1,185 million. Aside from this large obligation for equipment, the dollar volume of actual purchases was greater than ever before in the history of the railroad industry. Likewise highly significant is the fact that, giving full effect to price increases in 1951, the railroads actually bought a greater physical volume of materials and supplies last year than they did in 1950.

In *Railway Age's* regular analysis of expenditures, the dollar value of each category except fuel (or group of products, in the case of "other materials") purchased in 1951 was greater than it was in 1950. Fuel purchases were down only slightly from those of 1950, and purchases of manufactured products, excluding equipment and fuel, were almost 46 per cent higher than those of 1950, and considerably above those of any other year since such records have been kept. Add to this the $1,185 million in equipment commitments and one finds the largest dollar volume of buying in the history of the

1951 RAILWAY PURCHASES**

	Oct. '51 (000)	Nov. '51 (000)	Dec. '51 (000)	Cumulative total, 1951 (000)
Equipment*	$ 81,505	$ 76,464	$ 75,350	$1,184,872
Rail	9,165	7,744	7,920	100,306
Crossties	9,662	7,392	7,560	96,860
All Other Material	114,745	113,872	115,460	1,455,034
Total from Manufacturers	$215,077	$205,472	$206,290	$2,837,072
Fuel	49,640	46,992	49,060	601,050
Grand Total	$264,717	$252,464	$255,350	$3,438,122

*Amount placed on order. Cumulative total adjusted to include previously unreported orders.
** Subject to revision.



Average dollar volume increases in purchasing by representative roads, 12 months 1950 compared with 10 months 1951

industry. In fact, at the end of September 1951 total purchases already had come within $400 million of equalling those of the entire year of 1950. Also, purchases of manufactured products, other than fuel and equipment, by the end of September, had exceeded expenditures for similar supplies in the corresponding 1950 period by more than $100,000,000.

Price increases obviously played an important part in the increased dollar volume of railroad buying in 1951. However, it is equally clear that last year the railroads actually purchased materials in considerably greater physical quantities than in 1950. A survey of nine material classes (as prescribed by the Association of American Railroads, Purchases and Stores Division) revealed that most roads answering an inquiry by *Railway Age* reported increases in dollar volume of purchases in 1951's first ten months as compared with the entire year of 1950, and that the same frequently was true of total physical volume of purchases. This increase ranged from a low of 3 per cent to as high as 71 per cent for some roads and some items.

One railroad, for example, reported that the physical volume of its purchases of diesel-electric locomotive parts in the first 10 months of 1951 was approximately 35 per cent above the figure for the entire year of 1950. Dollarwise this meant an increase of about 39 per cent, compared with 1950. Another road, comparing the first 10 months of both years, stated that its purchases of lumber for buildings, bridges, etc., (A.A.R. Class 4) were up about 25 per cent in physical volume, but that with price increases this added up to about a 40 per cent increase in dollars.

It is true, of course, that some roads did not buy some products in 1951 at the rate reported in 1950. One eastern road, for example, disclosed that its purchases of car castings, etc., (Class 20) in the first 10 months of 1951 were down about 25 per cent, dollarwise, from 1950, despite price increases which amounted to an overall average of about 17 per cent in this category of supplies. A midwestern road stated that its buying of

With dieselization of the railroads proceeding rapidly purchases of diesel parts are soaring, too, although the amount of protective stock required for each unit has been found to be lower than was originally anticipated

In stores and transportation departments the ubiquitous fork lift truck is handling a large proportion of the package freight which railroads must handle physically in small lots

glass, drugs, chemicals, paints, etc., (Class 47) was about 8 per cent below its 1950 purchasing rate for similar products. Still another midwestern road says that it purchased about 10 per cent less lumber for buildings, bridges, etc., than in 1950. Yet prices 25 to 35 per cent higher, depending on the kind of lumber, brought its total dollar volume of purchases for the ten-month period of 1951 above that of the entire year of

Annual Purchases of Equipment—Class I Railroads

Year#	(000)	Year#	(000)
1930	$146,471	1941	$414,690
1931	28,873	1942	325,000†
1932	2,623	1943	248,000†
1933	5,857	1944	255,000
1934	66,850	1945	320,100
1935	35,696	1946	629,510
1936	240,594	1947	701,616
1937	194,153	1948	660,017
1938	74,006	1949	217,032
1939	188,838	1950	1,215,029
1940	264,943	1951	1,184,872*

**Preliminary estimates.*

#Estimated value of orders for new locomotives and cars.

†Estimated value of orders for new locomotives and cars built by equipment builders and placed in service during 1942 and 1943.

1950. Another eastern road's purchases of diesel fuel for 10 months of 1951 were below those of the whole year of 1950. Yet the rate of purchases indicates that such purchases will be up about 3½ per cent in physical volume, when the year-end total is obtained, while dollar volume will be up about 10 per cent.

The accompanying chart indicates that in all of the A.A.R. classes surveyed increases were shown in dollar volumes, comparing the first 10 months of 1951 with 12 months in 1950, despite instances of decreases reported here and there. This chart shows the *average* ratios of dollar volume purchases as reported by representative roads (including roads showing decreases). It is not intended to be definite, but is designed to show the buying trend.

Reports from railroads also indicate that there was a high volume of purchasing in other categories than those indicated in the chart. As summarized elsewhere in this issue, maintenance-of-way work equipment dollar purchases in 1951 exceeded 1950. The number of units purchased in 1951 was greater than any other year, with three exceptions. Also, reported installations of mechanical handling equipment in freighthouses greatly exceeded those of 1950. Similarly, although it is not yet possible to say whether or not the number of units of mechanical equipment for handling accounting and other paperwork installed in 1951 was greater than in 1950, purchases and rentals in this category continued at a high level.

What 1952 will be like business-wise it is, of course, hazardous to predict. Nevertheless, railroad planning now indicates that, barring major business disturbances and severe restrictions on the use of materials needed in the manufacture of work equipment, accounting machinery, materials handling equipment, etc., in some cases purchases will be greater in 1952 than they were in 1951. For the average run of materials and supplies purchases should at least continue at the current high level, with the physical volume of buying slightly exceeding that of 1951.

1951 PURCHASES*

MANUFACTURED GOODS
(Excl. Equipment and Fuel)
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$1,017,249	+62
1946	1,017,402	+62
1947	1,217,579	+36
1948	1,350,291	+22
1949	1,077,247	+53
1950	1,131,189	+46
1951	1,652,200	

RAIL
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$77,038	+30
1946	65,302	+54
1947	87,608	+14
1948	100,073	—
1949	94,669	+ 6
1950	99,123	+ 1
1951	100,306	

CROSSTIES
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$77,389	+25
1946	88,478	+ 9
1947	92,098	+ 5
1948	87,916	+10
1949	82,048	+18
1950	55,736	+74
1951	96,860	

OTHER MATERIAL
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$ 862,822	+69
1946	863,622	+68
1947	1,037,873	+40
1948	1,162,302	+25
1949	900,530	+62
1950	976,330	+49
1951	1,455,034	

FUEL
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$555,155	+ 8
1946	553,153	+ 9
1947	691,630	—13
1948	833,040	—28
1949	564,159	+ 7
1950	608,719	— 1
1951	601,050	

TOTAL (Excl. Equip.)
Twelve Months Totals '51 And Other Years (000)

Year	Amt.	% Change
1945	$1,572,404	+43
1946	1,570,555	+43
1947	1,909,209	+18
1948	2,183,331	+ 3
1949	1,641,406	+37
1950	1,739,908	+30
1951	2,253,250	

*November and December preliminary figures included, making 1951 totals subject to revision.

1951 INVENTORIES

RAIL
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$25,158	+68
1946	25,783	+64
1947	28,084	+50
1948	33,163	+27
1949	37,475	+13
1950	38,478	+10
1951	42,182	

CROSSTIES
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$63,300	+40
1946	75,701	+17
1947	87,829	+ 1
1948	79,148	+12
1949	96,515	— 8
1950	82,609	+ 7
1951	88,333	

OTHER MATERIAL
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$450,008	+56
1946	472,764	+48
1947	558,987	+26
1948	611,887	+15
1949	581,945	+21
1950	511,420	+37
1951	701,572	

SCRAP
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$10,183	+63
1946	11,424	+45
1947	10,426	+59
1948	14,378	+15
1949	16,053	+ 3
1950	14,008	+18
1951	16,550	

FUEL
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$57,279	+10
1946	54,797	+15
1947	56,629	+12
1948	95,874	—34
1949	63,534	— 1
1950	50,875	+24
1951	63,193	

TOTAL†
Oct. 1, '51 Compared to Other Octs. (000)

Year	Amt.	% Change
1945	$605,928	+50
1946	640,469	+42
1947	741,955	+23
1948	834,450	+ 9
1949	795,522	+15
1950	697,390	+31
1951	911,830	

†All total inventory figures taken from I.C.C. statement M-125 for the month indicated.

CALENDAR OF LABOR AND WAGE EVENTS—1951

(The beginning of the year found the Army still technically in control of all railroads, following federal seizure on August 27, 1950, to prevent a strike called by the Order of Railway Conductors and the Brotherhood of Railroad Trainmen. Mediation proceedings had been conducted throughout the fall of 1950 between the carriers and these two unions, as well as between the carriers and the Brotherhood of Locomotive Firemen & Engineman and the Brotherhood of Locomotive Engineers. Under the aegis of the White House, negotiators for these four unions signed a "memorandum of agreement" with the railroads, establishing a basis for settlement, on December 21, 1950. Six days later the general chairmen of the B. of L.E. repudiated that agreement.

During December 1950, scattered epidemics of "sickness" occurred among B.R.T. switchmen and trainmen—stemming, reportedly, from dissatisfaction with progress in stalemated negotiations.

When 1951 opened, fresh demands were on hand for a 25-cents an hour wage increase for members of 15 non-operating unions, and for a $50 a month pay increase and longer vacations for members of the American Train Dispatchers Association.)

Jan. 5 B. of L.F.&E. and B.R.T. general chairmen reject Dec. 21 "Memorandum of Agreement." O.R.C. follows suit two days later

Jan. 9 Conference between 15 non-operating unions and carriers begin on new wage demand.

Jan. 10 President Truman sign amendment to Railway Labor Act authorizing union shop and dues check-off.

Jan. 15 Epidemic of "sickness" starts in Birmingham and spreads to 12 major cities and 35 railroads, seriously crippling service.

Jan. 17 C.I.O. announces plans for new railroad union to be called the United Railroad Workers of America.

Jan. 19 National Mediation Board resumes mediation in dispute of four operating unions.

Jan. 23 Fifteen non-operating unions invoke services of National Mediation Board in dispute over wages, with actual mediation beginning following day.

Jan. 29 Brotherhood of Railway Clerks, Order of Railroad Telegraphers, and Brotherhood of Railroad Signalmen of America strike on Chicago, Aurora & Elgin over demands for 40-hour week with 48-hour pay and certain rule changes.

Feb. 2 "Sickness" epidemic reaches highwater mark, affecting over 50 railroads and 110 cities, all but halting service on many railroads. Volunteer crews of office workers and supervisors struggle to keep essential supplies moving.

Feb. 5 Seventeen non-operating unions serve demands for establishment of union shop and check-off agreements.

Feb. 6 "Sickness" epidemics show signs of collapsing as "contempt-of-court" hearing against B.R.T. in Chicago brings out evidence of advance planning and intimidation by B.R.T. in organizing walkouts.

Feb. 8 President Truman direct Army to "take appropriate action" to end walkouts of "sick" switchmen. Army thereupon orders strikers to return by 4 p.m., Feb. 10, or lose seniority. Interim pay increase of 12½ cents an hour for switchmen and 5 cents for road men is granted, retroactive to Oct. 1, 1950.

Feb. 10 "Miraculous" recovery of "sick" switchmen puts all railroads back in full operation, with tremendous backlogs of stalled cars to be moved and clogged yards to be cleared.

Feb. 22 Senate Committee on Labor and Public Welfare commences hearings "to inquire into the causes, the issues, and the repeated failures of settlement of the current labor dispute between railroads and four operating brotherhoods."

Feb. 24 B.R.T. seeks separate settlement of its dispute, breaking united front of four operating unions.

Feb. 26 Federal court in Chicago issues permanent injunction restraining B.R.T. from further strike action.

Mar. 1 Non-ops settle wage dispute on basis of 12½-cent pay increase effective Feb. 1, plus escalator clause for cost-of-living increases, and a moratorium to Oct. 1, 1953, on further wage changes. This is the first negotiated settlement between carriers and non-ops in several years.

Mar. 10 Canadian National reaches new agreement with B. of L.F.&E., O.R.C., and B.R.T. granting certain employees in yard and engine service a 4½-cent pay increase retroactive to Dec. 1, 1950, and including several rule changes.

Mar. 11 Shutdown of Chicago, Aurora & Elgin ends after 41 days, following settlement of strike over 40-hour week with 48-hour pay. Settlement covers three other non-striking unions.

Mar. 12 Conferences started between carriers and A.T.D.A. Three days later both parties invoke N.M.B. services.

Mar. 14 United Transport Employees ("red caps") sign agreement with railroads identical to Mar. 1 non-stop settlement.

Mar. 22 Senator Murray of Montana advances compromise proposal for ending B.R.T. dispute based on Dec. 21 "Memorandum of Agreement," with two small upward wage adjustments and use of a referee other than Dr. Steelman for negotiations on rules. Proposal—reported as acceptable to B.R.T.—is rejected by the railroads.

Mar. 27 Carriers ask Economic Stabilization Agency to grant necessary approval for wage increases included in non-ops' settlement.

Mar. 27 E.S.A. asks Army to withhold 6-cent wage increase due non-operating employees April 1 under cost-of-living escalator clause, for fear "this increase will pierce established wage ceilings."

Mar. 28 Railroads agree to leave question of who shall be arbitrator in B.R.T. dispute over operating rules to "the President of the United States, and will accept anyone named by him." B.R.T. likewise agrees two days later.

Apr. 3 Senator Morse of Oregon, in a public hearing of Senate committee investigating dispute between carriers and operating unions, suggests railroad labor unions "shouldn't be allowed to keep rules that really are make-work rules, and can't be reconciled with efficient operation of the railroads."

Apr. 6 President Truman asks E.S.A. to establish immediately an emergency panel to study the B.R.T. wage increase case on its merits and submit recommendations. E.S.A. appoints 3-man panel four days later.

Apr. 25 E.S.A. approves escalator cost-of-living wage increases withheld from non-ops, retroactive to April 1.

May 23 Dispute with 17 non-operating unions over union shop agreement submitted to National Mediation Board.

May 25 B.R.T. and railroads sign three-year agreement, settling long dispute. The settlement, based on previously rejected Dec. 21 "Memorandum of Agreement," includes a moratorium to Oct. 1, 1953 on proposals for changes in wages and rules other than the negotiation of union shop agreements. Wage provisions are retroactive, by stages, to Oct. 1, 1950, and give yardmen a 33-cent increase ($2.64 per "basic day"), and roadmen a 18½-cent increase ($1.48 per "day") including the interim increases ordered by the Army on Feb. 8 and the 6-cent cost-of-living increases due under the escalator clause of the agreement. Settlement calls for a 40-hour week "in principle" for yard men, but postpones action until Jan. 1, 1952. All disputes over rules are settled except two—coupling and uncoupling air, signal and steam hoses, and the performance of more than one class of service on a single trip by road employees—which are left to be settled by a referee to be appointed by President Truman. B.R.T. dining car stewards will

have their work month reduced from 225 to 205 hours, with a pay increase of $34.42 a month.

June 12 Mediation between carriers and dispatchers terminated. N.M.B. offer of arbitration accepted by both parties.

June 8 President Truman names arbitrator for unsettled dispute over rules between carriers and B.R.T., as covered in May 25 agreement.

June 13 Wage Stabilization Board clears wage increases granted in B.R.T. agreement.

June 14 Carriers submit to N.M.B. a "package settlement" offer in dispute with O.R.C., B. of L.E. and B. of L.F. & E., embodying provisions like B.R.T. May 25 agreement.

June 25 B. of L.E., O.R.C. and B. of L.F. & E. convene their general chairmen to consider railroad "package settlement" offer. Three days later unions advise N.M.B. offer is not acceptable.

June 26 Report adopted by Senate Labor and Welfare Committee declares federal seizure of railroads is but "legal fiction without substance" and "a one-sided arrangement loaded in favor of management." A week later minority report raps majority report as showing a "distressing lack of objectivity at several points" and as "tending to obstruct rather than facilitate collective bargaining."

July 11 B. of L.F. & E. announces plans for strike vote among members after July 15. Mediation still in progress.

July 24 N.M.B. refers unsettled wage and rules dispute involving B. of L. F. & E., O.R.C., and B. of L.E. to White House, noting that negotiations are "deadlocked" and board's mediatory efforts have proved "unavailing." Chiefs of the three unions report they are willing to arbitrate "providing satisfactory agreement can be reached with the carriers, and provided further that agreement to arbitrate is made contingent upon the parties agreeing upon a neutral arbitrator."

Aug. 1 Arbitrator handling B.R.T. dispute over two rules hands down award removing prohibitions or restrictions on the coupling or uncoupling of air, signal or steam houses by yardmen, and providing no payment for such work, except where presently required by existing agreements and limiting the payment in such cases to 95 cents. Award granted road trainmen in mixed service pay "at the highest rate applicable."

Aug. 9 Carriers agree to arbitrate seven rules involved in dispute with three operating unions, and to accept any neutral referee or arbitrator named by President Truman. As to wages and other matters, the railroads stand on "package settlement" offer of June 25.

Aug. 13 Arbitration award handed down in dispatchers' wage case, providing a monthly pay increase of $35.76 effective Feb. 1, 1951, with an escalator clause for cost-of-living adjustments, and denying request for longer vacations. Carriers question E.S.A. as to whether award complies with wage stabilization policy. E.S.A. approves award.

Aug. 15 New York Central is the first eastern road to enter union shop agreement for all non-operating employees.

Aug. 20 Temporary emergency railroad panel appointed by E.S.A. to handle wage stabilization cases.

Aug. 22 Three operating unions refuse railroad settlement offer of Aug. 9.

Sept. 25 Emergency board appointed in dispute between B. of L.E. and Rio Grande over two changes in working rules. Board's report recommends changes in mileage-limitations rule to bring it in line with similar "standard" rules.

Sept. 26 Canadian railroad unions approach roads for informal discussion of cost-of-living pay increases. In view of last year's arbitration award, no formal demand was made.

Sept. 27 Permanent Railroad and Airline Wage Board created by E.S.A. to handle stabilization problems.

Oct. 4 National Mediation Board suggests to railroads that regional conference committees be formed to negotiate non-ops' union-shop demands. Railroads oppose consolidation of union shop cases on regional or national basis.

Oct. 11 Emergency board in O.R.C.-Pullman Company dispute recommends settlement on basis of general railroad pattern established by previous settlements, with a wage increase for conductors of $37.95 per month, retroactive in whole or in part to various dates to January 1, 1951, and including an escalator clause for cost-of-living increases. The following day O.R.C. advises President Truman that the report "makes no contribution whatsoever toward a settlement." Union suggests the President refer the report, "and the dispute with which it deals to a committee of impartial arbitrators for authoritative study."

Oct. 15 National Mediation Board allows Erie general yardmasters, who perform the work of trick yardmasters, to participate in a representation election.

Oct. 24 B. of L.F. & E. members vote "overwhelmingly" for strike. Strike instructions mailed.

Oct. 25 Massachusetts Department of Public Utilities allows Boston & Albany to operate single rail-diesel passenger cars between Boston and Springfield with two man crews—engineer and conductor.

Oct. 26 N.M.B. suggests railroads and non-operating unions arbitrate union shop demands, following its failure in getting the parties into "concurrent mediation" because of the railroads' insistence on settling the issues involved on an individual railroad rather than a national basis.

Nov. 6 Non-ops' dispute over union shop demands certified to White House by N.M.B. for appointment of an emergency board. 17 unions and 393 railroads are involved.

Nov. 6 President Truman appoints emergency board to investigate long-stalemated dispute between carriers and B. of L.F. & E. over wages and rules. The President acted after the union had called strikes against the Baltimore & Ohio, Louisville & Nashville, Terminal Railroad Association of St. Louis and the Chicago & North Western system.

Nov. 15 President Truman appoints emergency board to handle dispute with non-ops over union shop demands.

Nov. 15 First of several meetings held between carriers and B. of L.E. on subject of long-stalemated dispute.

Nov. 27 B. of L.F. & E. walks out on emergency board investigating its dispute, calling the board's proceedings a "fruitless venture." Union objection to board is based on fact same board members participated in O.R.C.-Pullman Company case and brought forth "objectionable" findings.

Nov. 27 Senate subcommittee on internal security labels Dining Car & Railroad Food Workers Union communistic.

Nov. 29 B. of L.E. asks N.M.B. to certify its dispute to an emergency board "without the use of a strike threat." N.M.B. complies, noting the certification is a reflection of the board's view that government operation of the railroads has created a situation wherein employees are entitled to have their demands so handled.

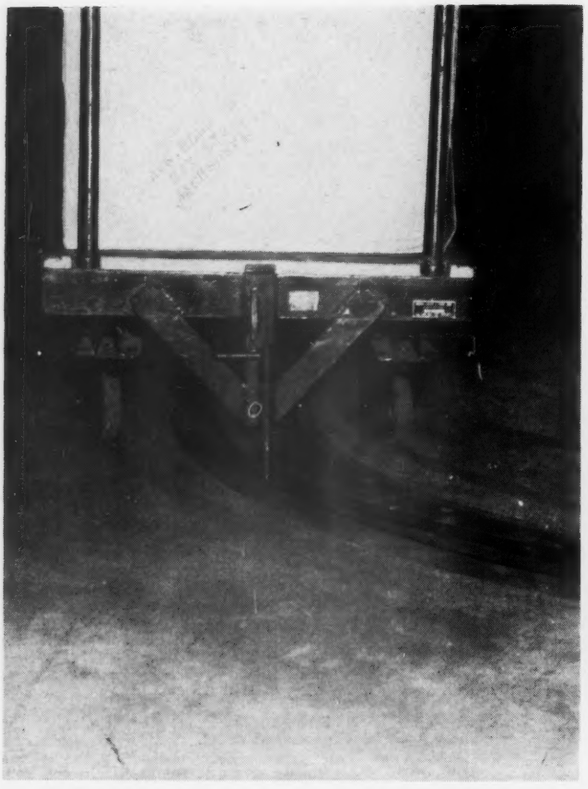
Nov. 30 B. of L.F. & E. orders members to "absolute observance of every safety and operating rule as well as giving thorough attention to the last and most minute detail in connection with train orders."

Dec. 3 N.M.B. certifies Switchmen's Union of North America as collective bargaining representative of 3,832 Southern Pacific yardmen formerly represented by B.R.T.

Dec. 7 O.R.C. proposes to the Army an arbitration procedure for the settlement of its dispute with the carriers.

Dec. 17 Emergency Board hearings on B. of L.F.&E. case concluded.

(As of the end of the year the three operating unions— B. of L.F. & E., O.R.C., and the B. of L.E.—were still relentlessly seeking greater wage and rule concessions. The B. of L.F. & E. case was in the hands of an emergency board, before which the union refused to appear; its recommendations are expected shortly. The O.R.C., having exhausted all the recourses of the Railway Labor Act, was actively exploring other avenues for attaining its demands. The B. of L.E. case was awaiting the appointment of an emergency board. Although dealings between the railroads and other unions were, on the surface, "quiet," unrest and controversy existed behind the scenes and may break into the open if unions in other industries secure new pay increases beyond the automatic cost-of-living raises they already enjoy.)



In 1952 the Santa Fe will complete the installation in its Chicago and San Francisco freight stations of three new under-floor chain conveyors. The Rock Island's Armourdale, Kan., transfer will be mechanized with an overhead conveyor

Further experimentation with containers, more or less like the Missouri Pacific's successful "Speedbox," will be conducted in 1952. To date most roads find containers are not generally profitable unless loaded in all movements

Freight Station Mechanization Continued "In High" in 1951

Planning for 1952 cautious because of lagging l.c.l. traffic; carriers want to test containers more throughly this year, with several types to be used

By J. W. MILLIKEN
Associate Editor

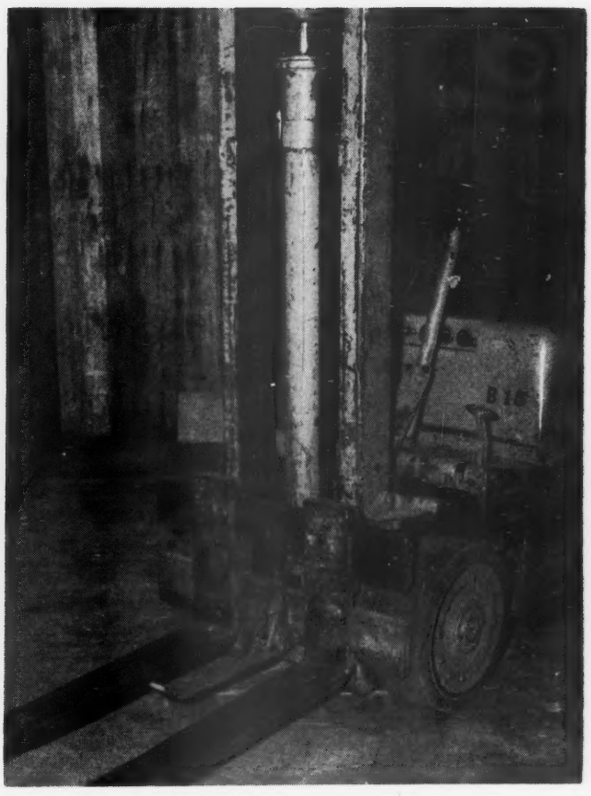
OUTLOOK FOR 1952

With l.c.l. tonnage probably continuing at a fairly low level, planning is cautious for 1952 in the field of freighthouse mechanization. To date, 32 of the larger carriers expect to install in freighthouses 78 fork trucks, 231 burden carriers, 29 tractors, 5 low-lift platform trucks, and 550 platform trailers, plus lift jacks, hand hydraulic lift trucks and pallets. Most of those roads reporting say that they may increase their purchases a little if business is "good."

Considering that in 1951 there was an increase in the lead time for delivery of most freighthouse equipment and that l.c.l. traffic fell somewhat below the railroads' hopes and expectations, a surprisingly large amount of mechanized equipment was installed in American and Canadian freighthouses. Reports from 32 of the larger roads indicate that 148 fork trucks, about 245 burden carriers, 49 tractors, 1,191 trailers, plus hundreds of pieces of miscellaneous equipment, were put to use in the handling of l.c.l. and carload freight during the year.

Mechanization-wise, perhaps the most noticeable trends and events of the year were: (1) an increase in the amount of electric-powered materials handling equipment installed, as compared to gas-powered installations; (2) meeting of stations department officers and equip-

The Canadian National uses fork trucks equipped with a special device (shown in white in the illustration) to move dock plates, with increased safety to employees and less expense to the railroad as important results



Easily and quickly applied to the cross members, the "finger" used by the C.N.R. is 22 in. long. By the addition of the finger a "jaw" is formed, with the lift truck forks beneath the device, which holds the dock plate in place on them

ment-designing engineers to discuss possibilities for further cutting handling costs; (3) increasing mechanization of smaller stations; and (4) growing popularity of "merry-go-round" conveyors for handling l.c.l.

Clearly recognizable in 1951 freight station mechanization was the turn toward electric equipment. Heretofore, electric equipment, as far as the railroads were concerned, had been employed chiefly in the stores departments and in mail and baggage handling at passenger stations, although of course some was used in freight station work. One of the main reasons for this switch to electric-powered equipment has been the high cost of maintenance of the gasoline-driven equipment, plus some difficulty in procuring spare parts.

It is clear that this state of affairs is far from being entirely the responsibility of the manufacturers of the equipment, and it is considered in some quarters as evidence that some of the railroads are relenting, to a certain extent, their efforts to get observance of good maintenance practices at some of their stations. Comparatively speaking, the electric truck does not require the maintenance that its gas-powered rival does, and more railroads apparently are turning to it, in spite of its high initial cost compared to that of gasoline-powered equipment, to do their materials handling work with the ultimate in savings, in which, of course, maintenance costs play a large part. Not only are electric fork trucks being bought, but the railroads' burden carriers, up to 1950 almost exclusively gasoline-driven, are being supplanted in some cases by their electric counterparts. About 30 per cent of the mechanical freight handling equipment installed in 1951 was reported as being electric.

During 1951 more attention was paid than ever before to the mechanization of the smaller stations, those where tonnage averages 75 to 150 tons per day. As noted in the October 15, 1951, *Railway Age*, the Lackawanna has successfully mechanized (completely) its Passaic, N. J., station, at which about 85 tons per day are handled. The Union Pacific reports that all its stations in that class already have been mechanized in whole or in part, while the Frisco reports economy realized from installing a pallet-fork lift operation in one of its stations where tonnage runs to about 40 tons per day. Similarly, the Santa Fe reports economically satisfactory results from mechanization of such stations as El Paso, Tex., Dodge City, Kan., and Pueblo, Colo.

As indicated in *Railway Age* of December 3, 1951, page 104, some railroads already have been giving consideration to using overhead belt conveyors for handling l.c.l., much as they now use them in handling mail. Builders of this type of equipment, after conferring with carriers, think that they can devise a system which will handle successfully, and economically, most—but not all—of the l.c.l. tonnage at any given station. Whether or not this actually will turn out to be true in practice is of course still to be determined. However, a group of representatives of eastern carriers has agreed to work with the equipment manufacturers in an attempt to develop such a handling system. The desired system would provide for automatic shunting of packages from the main line of the conveyor belt to cars.

Purchases of various machines used in connection with rail-laying work showed a moderate increase last year

Record Maintenance Equipment Purchases in 1951

By MERWIN H. DICK
Engineering Editor

Dollar value of machines acquired by the railroads reached new peak, and the number of units was exceeded in only three previous years

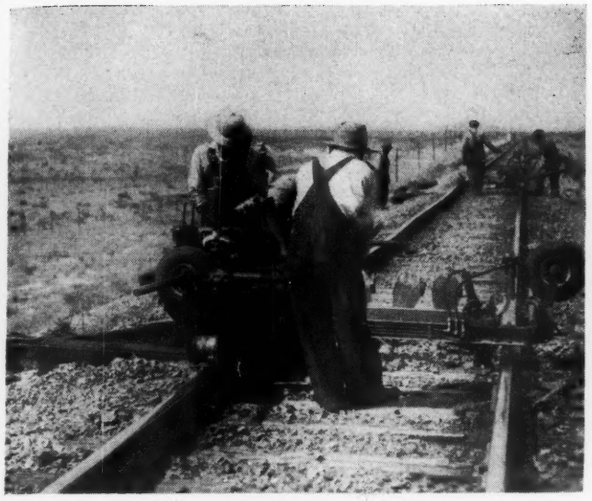
Equipment designed to perform mechanically, with a minimum of physical labor, the many tasks involved in maintaining their tracks and structures is proving to be a "life saver" to the railroads. Almost anyone will arrive at this conclusion if he will ask himself the question: "In view of the prevailing high wages of maintenance-of-way employees, how much more would it be costing the railroads to maintain their tracks and structures if the work had to be done mostly by hand, as it was years ago?" That there is no doubt in the minds of railway maintenance officers regarding the answer to this question is indicated by the fact that they are continuing to buy such equipment in large volume.

In dollar volume such purchases in 1951 reached a new peak, while the number of units acquired was within shooting distance of the previous high record. Based on figures supplied to *Railway Age* by nearly all of the more important railroads of the United States and Canada, it is estimated that these lines purchased in 1951 a total of 9,700 units of power equipment and tools of all types for use in the maintenance and construction of tracks, bridges, buildings and water service facilities. The total estimated cost of this equipment was $19,500,000. A table shows the work equipment purchases and expenditures therefor for each year since 1937. It is apparent from this tabulation that the dollar expenditures for work equipment in 1951 were substantially higher than those of the previous record year, which was 1947. It is also apparent that the number of units purchased last year has been exceeded in only three previous years, namely, 1944, 1945 and 1946.

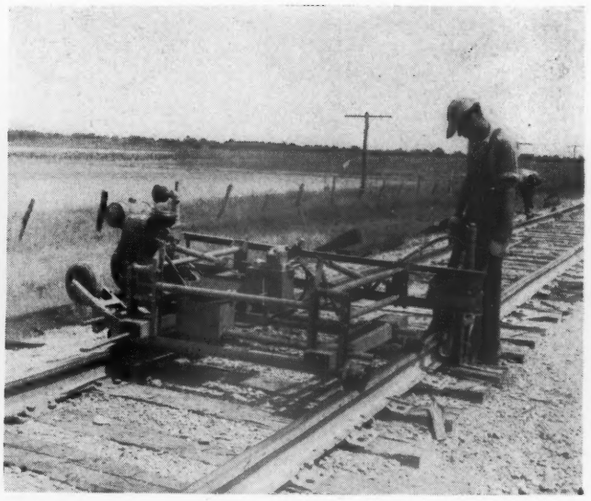
What these figures say is that, while purchases of work equipment are going up, the prices paid for that equipment are going up even faster. This is merely another object lesson in the effect of inflation on railroad maintenance-of-way work. The figures also say that, while prices of equipment are climbing, the increases in hourly wages have been relatively much higher, with the result that the savings possible through the use of work equipment are relatively more attractive than ever before.

The estimates of purchases of work equipment for 1951, as given above, are based on answers to a questionnaire sent to all railways of the United States and Canada. Replies were received from about 80 per cent of the roads in these two countries, including all but a few of the important lines. Of the roads submitting replies, 176 report purchasing a total of 9,622 units. Of the Class I roads reporting in 1951, 50 acquired more equipment than in 1950 and 31 reported fewer purchases.

The reported purchases of equipment in individual categories revealed some interesting trends. For example, the purchase of motor cars snapped out of a slump of two years duration, with the number of cars reported bought in 1951 amounting to a total of 2,012, thereby returning to the first-place ranking held for many years.



One of the newer machines that saw service in 1951 was this tie inserter, which saved many man-hours



This hydraulically operated spike puller "made its bow" during the past year in the maintenance field

This figure compares with 1,229 cars reported purchased in 1950, and 1,452 units reported as bought in 1949.

At the same time, paradoxically, there was a continuation of the trend toward the use of trucks and related equipment for moving men and materials. Specifically, the reported purchases in this category included 283 automobiles, 1,113 trucks, and 30 trailers, a total of 1,426 units. In 1950, the reporting railroads acquired 198 automobiles, 889 trucks and 68 trailers, for a total of 1,157 units.

Although the reporting railroads acquired more machines for carrying out ballasting programs in 1951 than in the year before, this category of equipment lost the first-place rank it held last year to the perennial leaders, motor cars and highway vehicles. To be specific, the reporting roads purchased 1,365 machines in this category in 1951, compared to 1,325 bought in 1950.

On the other hand, the reported purchases of equipment for laying rail showed a substantial increase, i.e., from 713 units in 1950 to 1,010 machines in 1951. Reported purchases of grading equipment also went up substantially, namely, from 300 units in 1950 to 653 last year. Crawler tractors increased from 54 to 255.

Taking cognizance of the inherent ability of machines to reduce the cost of performing large amounts of work, many railroads have already programmed large purchases of work equipment for 1952. Seventy-nine of these roads have provided this magazine with dollar estimates of the amount of work equipment they plan to buy. Of these roads, 46 expect to spend more money for this purpose than in 1951, while several reported that they will spend less. Specifically, the planned purchases of these 79 roads as a group will amount to $7,397,607, an increase of $123,170 as compared with 1951. Hence, taking all factors into consideration, it is apparent that the amount of work equipment to be purchased this year will, in all probability, be at least equal to the volume purchased in 1951.

Last year was one of persistent, although not outstanding, progress in the improvement of existing work equipment and in the development of new types. Particular activity was noted in the development of machines for removing and inserting crossties in connection with renewal operations. During the year an eastern railroad had in operation a "homemade" tie puller and a tie inserter, while at the same time a western line continued tests of machines developed by a manufacturer.

At least one railroad uses a number of wheel-mounted tractor-compressors in spot-tamping track

This same western line is also experimenting with an undertrack plow for use in skeletonizing track. In addition it was also trying out a hydraulic spike puller and a hydraulic tamping machine. Another piece of equipment that made its appearance during the year was an on-track multiple-unit air-tamping machine.

ANNUAL EXPENDITURES FOR MAINTENANCE-OF-WAY AND STRUCTURES WORK EQUIPMENT, 1937—1951

	Units	Expenditure
1937	3,310	$ 5,000,000
1938	1,376	2,000,000
1939	3,547	6,000,000
1940	5,414	7,250,000
1941	8,007	10,500,000
1942	7,612	10,270,000
1943	8,507	12,300,000
1944	9,984	14,400,000
1945	11,733	17,500,000
1946	9,939	15,400,000
1947	9,500	19,100,000
1948	9,300	18,700,000
1949	8,700	17,500,000
1950	8,700	18,270,000
1951	9,700	19,500,000

Punch card equipment is doing more and more of the railroads' accounting and statistical work. Improved models of machines are replacing older equipment

Low-volume duplicating jobs are many on the railroads. Increasingly they are being handled by machines especially designed to perform such work

Employee Training Programs Thrive in Accounting Departments

Department heads on more roads get help from office methods departments; office mechanization still looked on as a primary means of cost cutting

By J. W. MILLIKEN
Associate Editor

Two things stood out in the field of railroad accounting in 1951—in addition to the carriers' mechanization program which has been proceeding rapidly for the last few years, especially since the 40-hour week for clerical employees became standard in September 1949. They were: (1) a growing tendency to put the developing of new clerical methods and procedures in the hands of a specialized group or person, all or most of whose duties are directed toward finding better ways to perform clerical work; and (2) the progress in setting up—and improving—employee training programs.

To date, information reaching *Railway Age* indicates that 12 American and Canadian railroads have formed —or have taken steps to form—office methods and procedures departments. Some operate only within the accounting department, but the functions of a few of them extend to the work of other departments as well. (Some of these "departments" still are in the one- or two-man stage, while others, more securely established, have gone beyond that point.)

Practically all roads replying to a questionnaire on the subject have informed this paper that they have employee training programs of one sort or another. Naturally, one of the main objects of such programs is to procure better job performance from the trainee, but there is a growing realization that good replacements for supervisory help, at all levels, can be procured in most cases only if persons with some native ability are given proper training to supplement the knowledge gained in the everyday performance of assigned duties. In other words, while good "bosses" may be born, they can be made even better bosses through proper training.

Employee training of all sorts and at various levels has been carried on by a large number of railroads during the year just ended. The Illinois Central, for example, is only one of many roads which have put programs into effect for training rate and division clerks. The I.C.'s auditor of freight receipts has developed a correspondence course for his rate clerks, which has been made available also to rate clerks in the traffic and operating departments. Up to December 1, 1951, the 1,100 persons who were taking the course had taken 28 weekly lessons and had answered six sets of questions on the lessons. The course will end sometime in the

Here are two "frames" from the Rio Grande's movie on payroll procedure. It has been shown to roadway employees who make up time rolls so they can see how payrolls are handled and what happens when a time roll is late or incorrectly prepared

spring of 1952. To train similar employees in its accounting department, the Seaboard Air Line created (some years ago) the excepted position of "student rate clerk." Persons filling these positions go to night school six hours per week and take "on the job" training as well. At present seven persons are filling such positions.

The Denver & Rio Grande Western is another road which has gone extensively into employee training of various types. Among other steps, this road has adapted to its purposes the New York Central's course on "How to Be a Better Boss." In addition, some of the Hob Ferguson booklets, such as "A Guide to Better Supervision," etc., have been given to the road's supervisors in all departments.

The Chesapeake & Ohio, very conscious of the need for employee training, has assigned a personnel officer to its accounting and treasury departments. His job is to assist the various subdepartment heads within the accounting and treasury departments in selecting and training their new men and thereby to help assure the railroad's management that it always will have capable men coming along to replace those supervisors lost in the normal processes of attrition. To perform somewhat the same function, the New York Central has appointed directors of training in each of 18 separate offices in the accounting department.

Mechanization of accounting work proceeded rapidly again in 1951. To mention only a few examples of the trend, the New Haven, for example, adopted the I.B.M. card check payroll system, while the Reading put in an I.B.M. 604 electronic calculator to enable it to compute interline freight revenues more speedily.

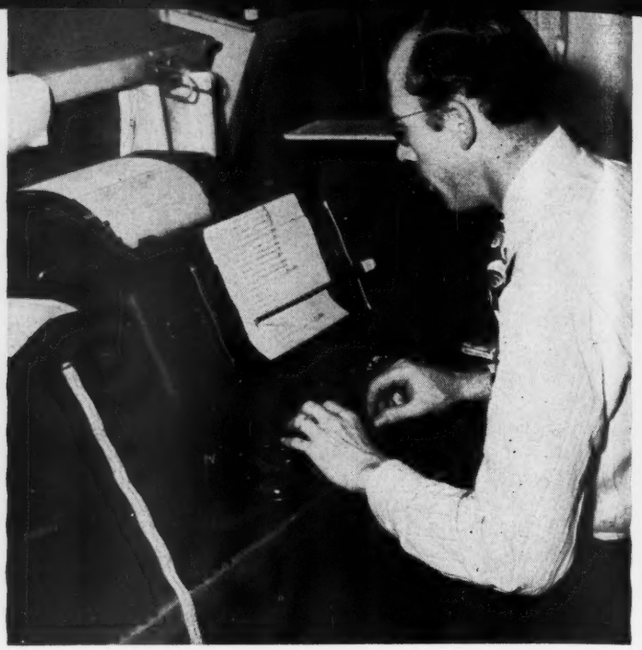
Perhaps one of the most interesting developments of the year was the use of new types of duplicating equipment, especially the Ozalid process, in the handling of work requiring more copies of documents than can be easily made by typewriter, but where the volume required does not justify the use of more elaborate duplicating equipment. A great deal of clerical time can be saved through the use of this equipment, its proponents believe, if, for example, all roads will accept—and themselves adopt—the practice of converting the statement of differences to a correction account without the intermediate steps of typing or writing out the correction account information on a separate sheet of paper. This conversion is done merely by writing on the statement of differences form the information required for the correction account and then, after stamping the S/D to indicate that it is being used for correction account purposes, running the form through the duplicating machine to produce the required number of copies. Harry Bransky, auditor of freight traffic of the Baltimore & Ohio, is one of the advocates of this technique. (See *Railway Age*, November 19, 1951, page 15.)

The Outlook for 1952

Prospects are that 1952 will be fully as active a year in the mechanization of accounting operations as the last few, barring shortages of equipment. (It is understood, however, that machine manufacturers, by and large, are pretty well loaded up with orders, and lead time on equipment deliveries is not decreasing.) As examples of programs definitely worked out: The Canadian National expects to put a lot of its work of prorating interline revenues on tabulating equipment. The N.Y.C. has stated that, among other things, it hopes to mechanize and simplify paper work in connection with the purchasing, storing, pricing and accounting for materials and supplies. That line, too, will install, on a test basis, several Burroughs passenger ticket vending machines which will issue both local and interline tickets. The Great Northern expects to begin the use of electronic punch and calculator-computers in division accounting, while the Cotton Belt and the Lackawanna will mechanize their car accounting procedures. These, of course, represent only a few of the changes which will be made during 1952, and in most cases are only a few of the changes which are planned by the individual roads mentioned.

As one railroad accounting officer put it, "We've only scratched the surface in improving our clerical procedures. The year 1952 will find us making the scratches a little deeper."

Radio and inductive telephones for road train service were installed in 1951 in 1,553 locomotives, cabooses and wayside stations, an increase of 370 per cent over last year



Printing telegraph machines installed on 28,000 miles of circuits in 1951 save train time and provide advance information on car movements

Communications Expanded in 1951

Annual construction of train communication equipment about 290 per cent over 1950—Carrier circuits improve utilization of existing line wires—Microwave shows promise replacing pole lines in storm areas

By JOHN H. DUNN
Signal and Communications Editor
and
ROBERT W. McKNIGHT
Associate Editor

THE OUTLOOK FOR 1952

Railroad communications construction in 1952 should continue at a high level and should increase in volume to meet existing requirements for more telephone and printing telegraph service, if government restrictions on materials are relieved.

Rapid progress in the more extensive construction of radio and inductive train communication was the outstanding feature of the railroad communications field during 1951. Also, as compared with previous years, the railroads in 1951 carried to completion a large number of installations of other modern communications apparatus, including talk-back speakers in yards, long-distance telephone and printing telegraph, and telephone train dispatching. Furthermore, an active interest has been shown in microwave systems.

Train Communication Growth in 1951

During 1951, radio and inductive equipment for road train service was installed in 1,636 locomotives, cabooses and wayside stations, an increase of about 290 per cent over the 417 such installations in 1950. Also radio and carrier equipment for yard and terminal service was installed in 305 locomotives and fixed stations, an increase of 125 per cent above that installed the previous year. This phenomenal increase in train communication occurred in 1951 because the benefits to be derived, from the standpoint of improved train operations, were so obvious that they forced solutions to the communications problems involved.

From a cost standpoint, a major reason for not having previously installed radio was the relatively high expense for providing electrical power supply on cabooses. On a large project including practically all its major freight routes, the Missouri Pacific, early in 1951, met this obstacle by adopting a small axle-driven generator capable of handling the radio load. This application was explained in *Railway Age*, January 29, 1951.

To cut costs further—by installing *no* power supply equipment on cabooses—some roads, such as the Rock Island, the Richmond, Fredericksburg & Potomac and the Green Bay & Western, adopted portable walkie-talkie sets for use on cabooses. The advantages and disadvantages of this practice are discussed in articles concerning installations on these roads in *Railway Signaling & Com-*

Loudspeakers controlled by this console in Nickel Plate yardmaster's office at Bellevue, Ohio, give him direct communication with men in all parts of the yard

Walkie-talkie radio sets are used in cabooses, and by train crews walking along trains, on several roads, including the Rock Island and the Richmond, Fredericksburg & Potomac

munications for February, October, and December 1951.

An outstanding railroad radio train communication project in 1951 was on the Missouri Pacific, which installed this system on all of its main lines, approximately 75 per cent being completed in 1951. This project as a whole, including work in 1950 and 1951, involves 10,011 miles of road, with transmitting and receiving sets on 337 locomotive units, on 300 cabooses and in 20 wayside offices. On freight trains the radio is for end-to-end, train-to-train, and train to wayside station use. Diesel locomotives on passenger trains are also equipped with radio for communication between trains and with wayside offices.

Train Radio Progress

During the past three years the Erie has been extending its radio train communications system. The outstanding event of 1951 was the installation of this system on the final 269-mile section between Marion, Ohio, and Chicago, thus completing this form of communication on the entire 1,150-mile line between Jersey City and Chicago. This radio system functions through 342 transmitting and receiver stations; including 224 diesel locomotives, 48 cabooses, 2 business cars, 8 walkie-talkies, and 60 base or wayside stations. The 60 wayside offices are so located that radio telephone calls can be made in either direction between trains and at least one wayside office. This is in addition to end-to-end and train-to-train calls.

Numerous other roads have made rapid progress in their installations of train communication in 1951. In general, the programs include the installation of radio on all the diesel-electric locomotives assigned to through freight service, and on a sufficient number of cabooses for use on these trains. For example, in 1951, the Texas & Pacific installed radio in 44 locomotives and 48 cabooses, which are in through freight-train service on 905 miles.

Wayside radio stations for communication between these stations and trains are being installed on several railroads in territories where severe storms in past years have destroyed pole lines. In 1951 for example, the Northern Pacific made an important installation of radio communication, not only end-to-end of train and train-to-train, but also between the dispatcher at Fargo, N. D., and trains on any part of 205 miles between Fargo and Mandan, N. D. This project included wayside base stations at Fargo and Mandan, as well as at nine intermediate points spaced an average of 19.5 miles apart.

Some of these wayside radio stations are at offices where operators are on duty three tricks, and others where only part-time operators are on duty. These offices, when unattended, are controlled remotely by a novel development to originate and conduct calls in either direction between trains and the dispatcher. The

NEW CIRCUIT MILES DERIVED IN 1951 BY SUPERIMPOSING CARRIER ON EXISTING LINE WIRES

Railroad	New Mileage of Long-Distance Telephone Circuits	New Mileage of Telegraph Circuits	New Mileage of Printing Telegraph Circuits
A. T. & S. F.	290.6		671.3
A. C. L.	1,025.7		
C. N.	231.0	32,124.0	1,105.0
C. P.	1,407.0	11,676.0	6,553.0
C. of Ga.	294.0		
C. & W. C.	51.1		
C. B. & Q.	115.0		
C. M. St. P. & P.	888.0		1,152.0
C. R. I. & P.	197.0		
D. & R. G. W.	218.0		218.0
Erie	729.7		638.1
G. N.	78.0		
G. M. & O.	1,290.0		106.0
I. C.		351.0	
M.-K.-T.	381.0		
M. P.			117.0
Monongahela	68.0		
N. Y. C.			
B. & A.	201.0		
N. Y. C. & St. L.	170.0		
N. Y. N. H. & H.			72.0
N. & W.	298.0		98.0
N. P.	162.0	2,390.0	400.0
P. R. R.	485.7		
St. L.-S. F.	364.0		364.0
S. A. L.	131.0		
S. P.	3,107.8		5,808.0
T. & N. O.	1,486.0		2,731.0
Southern	136.0		1,999.7
C. N. O. & T. P.	170.0		
G. S. & F.	90.0		
A. G. S.			438.0
N. O. & N. E.			200.0
T. T. & B.	38.0		
U. P.	129.0		
W. M.	224.0		
W. P.	665.0		
Totals	15,121.6	46,541.0	23,106.1

COMPARISON OF COMMUNICATION FACILITIES INSTALLED ON THE RAILROADS IN THE UNITED STATES AND CANADA DURING 1951 AND 1950

	1951	1950
Miles of new or rebuilt pole line:		
Railroad owned	5,854.5	3,770.4
Commercially owned	580.6	1,310.4
Jointly owned	706.0	1,238.5
Totals	7,141.1	6,319.3
Miles of new copper line wire:		
Railroad owned	10,731.5	6,606.4
Commercially owned	4,106.4	2,019.0
Totals	14,837.9	8,665.4
Increase in miles of road dispatched by telephone	1,600.3	1,791.5
New mileage of long-distance telephone circuits	19,200.6	18,104.8
New mileage of telegraph circuits	47,260.1	58,074.6
New mileage of printing telegraph circuits	28,058.2	33,051.4
New mileage of communication circuits derived by use of carrier	84,768.7	98,380.3
Yard loudspeakers:		
Number of control points	79	104
Number of two-way speakers	806	1,140
Number of paging speakers	305	387
Total number of speakers	1,111	1,527
Yard radio and inductive communications:		
Number of locomotives equipped	253	188
Number of fixed stations	52	54
Road train communications:		
Miles of road	22,726.5	5,402.7
Number of locomotives equipped	615.0	205.0
Number of cabooses or other cars	926.0	183.0
Number of fixed wayside stations	95.0	29.0

YARD LOUDSPEAKER INSTALLATIONS DURING 1951

Railroad and Location	Number of Control Points	Number of Two-Way Speakers	Number of Paging Speakers
A. T. & S. F.			
Bakersfield, Cal.	1	6	
A. C. L.			
Florence, S. C.	1	65	27
C. P.			
Montreal, Que.	3	143	2
C. B. & Q.			
Pacific Jct., Iowa	6		7
St. Jospeh, Mo.			5
C. G. W.			
Oelwein, Iowa	1	56	56
Des Moines, Iowa	9	9	5
C. M. St. P. & P.			
Chicago, Ill.	1	52	8
Minneapolis, Minn.	3	4	8
Tacoma, Wash.	1	4	14
C. R. I. & P.			
Des Moines, Iowa	1	20	6
D. & R. G. W.			
Ogden, Utah	1	3	12
D. M. & I. R.			
Two Harbors Yards, Minn.	2		2
Erie			
Hornell, N. Y. (Passenger Station)	1		2
Hornell, N. Y. (Icing Platform)	1	12	
Barberton, Ohio (Freighthouse)	1	2	2
Chicago, Ill. (Freighthouse)	5	27	
G. N.			
Allouez, Wis.			3
I. C.			
Chicago, Ill.	1		8
L. & N.			
Nashville, Tenn.**	10		14
M. P.			
Alexandria, La.	1	8	
McGehee, Ark.	1	8	
N. C. & St. L.			
Atlanta, Ga.	1	28	14
N. Y. C.			
Wayneport, N. Y.	2	2	24
Monroe, Mich.	1	1	2
C. R. & I.			
Chicago, Ill.	2	2	
M. C.			
Detroit, Mich.	2		12
N. Y. C. & St. L.			
Bellevue, Ohio	1	74	
Toledo, Ohio	1	28	
P. R. R.			
Cresson, Pa.	1		6
Chicago, Ill.	2		6
Reading			
Rutherford, Pa. (WB Class. Yard)	3	6	24
Southern			
Knoxville, Tenn.	3	225	25
C. N. O. & T. P.			
Oakdale, Tenn.	1	15	3
T. & P.			
Fort Worth, Tex.*	7	4	8
Wabash			
Tilton, Ill.	1	2	
Totals	79	806	305

*Intercom in diesel shop
**Radnor shops.

eleven wayside base stations are so spaced that each can contact the next one in each direction. Thus, if the pole line wires are destroyed by sleet storms, the radio stations can be used to bridge the gap during the emergency. This N. P. project includes radio equipment on 26 "A" units of diesel-electric locomotives, and on 35 cabooses, some of which are assigned between Fargo and Mandan, and the others on 206 miles between Mandan and Glendive, Mont. The diesel locomotives run through between Dilworth, Minn., and Glendive.

The Milwaukee is installing radio on locomotives and cabooses used in through service west of St. Paul, Minn. In sleet territory, between Montevideo, Minn., and Aberdeen, S. D., wayside radio stations are being installed at these two points and at three intervening stations.

PERMANENT YARD RADIO INSTALLATIONS IN 1951

Railroad and Location	Number of Locomotives Equipped	Number of Fixed Stations	Manufacturer	Frequency Allocated by F. C. C. Megacyles
A. & S.	1	2	Farnsworth	160.05
A. T. & S. F.				
Chicago	2		Bendix	
			Motorola	160.65
Los Angeles, Cal.	1	1	Bendix	161.37
San Bernardino, Cal.	4		Bendix	161.37
Pueblo, Colo.	1		Farnsworth	161.73
				161.37
A. C. L.				
Jacksonville, Fla.		1	Comco	160.29
Waycross, Ga.	7	1	Bendix	160.29
Lakeland, Fla.	4	1	Bendix	160.29
Tampa, Fla.	8	2	Bendix	160.59
				160.29
B. & O.				
Baltimore, Md.	4	2	Bendix	160.89
				161.07
C. P.				
Montreal, Que.	12	2	Motorola	161.01
				161.19
C. & O.				
P. M. District—Flint, Mich.	8	1	Bendix	160.29
				160.41
C. & E. I.				
Evansville, Ind.	3		Motorola	161.61
C. B. & Q.				
Omaha, Neb.	10	1	Westinghouse	159.69
				159.99
Denver, Colo.	7	1	Westinghouse	159.69
C. R. I. & P.				
Peoria, Ill.	8		Motorola	161.61
Joliet, Ill.	3	1	Motorola	161.61
Hutchinson, Kan.	1	1	Motorola	161.61
D. & R. G. W.				
Pueblo, Colo.		1	Motorola	160.83
Denver, Colo.	5		Bendix	160.83
Pueblo, Colo.	2*		Doolittle	160.83
Erie				
Hornell, N. Y.	1		Farnsworth	159.51
Hornell, N. Y.	4**		Farnsworth	160.05
G. B. & W.				
Green Bay, Wis.	2	1	Motorola	161.25
G. M. & O.				
Mobile, Ala.	3		Motorola	161.73
I. C.				
Chicago	2	1	Motorola	160.89
M. P.				
Alexandria, La.	1		Motorola	160.41
N. Y. C.				
Wayneport, N. Y.	71	13	G. R. S.	160.17
				160.41
				160.89
				161.41
				161.61
S. A. L.				
Birmingham, Ala.	4		Motorola	159.69
				160.17
S. P.				
El Paso, Tex.	5	1	Motorola	160.29
Roseville, Cal.		2	Motorola	161.43
				161.67
Bakersfield, Cal.		2	Motorola	{161.43
				{161.79
T. & N. O.	2	1	Motorola	160.29
U. P.				
Denver, Colo.	4		Motorola	160.29
				160.41
Salt Lake City, Utah	6		Motorola	160.29
				160.41
Los Angeles, Cal.	16		Motorola	160.17
				160.29
Union				
Rankin, Pa.	6	1	Westinghouse	159.87
Clairton, Pa.	5	1	Westinghouse	159.87
W. P.	30	8	Bendix	159.63
				160.05
Totals	253	50		

*Walkie-talkie units.
**Cabooses.

During 1951, increased interest was evidenced in microwaves—i.e., beamed radio—as a means of replacing line wires for transmission of railroad communications. The Santa Fe is one of the pioneers in the application of microwaves for transmission of long-jump communications between remote offices. Its first project is between Galveston, Tex., and Beaumont, 70 air-line miles, to replace wire lines on a longer route around the north end of Galveston Bay. Repeater stations are set up at Patton, White's Ranch and Morey. The installation includes equipment for eight channels of time division multiplex, and can be expanded up to 24 channels. The air-line route of the microwaves extends across varying terrain, including rough and calm salt water, swamps, wooded areas and open ground. Tests and developments were made as the project was constructed. The installation is now practically complete, and should be ready for service early in 1952.

The Rock Island microwave project is on 106 miles between Norton, Kan., and Goodland, on the main line from Chicago to Denver and Colorado Springs. The purpose of this installation is to handle railroad telephone conversations and telegraph messages through this territory where severe storms have torn down line wires on numerous occasions in past winters. The microwave equipment connects at Norton with the pole line extending east along the railroad. and at Goodland with the pole line extending west. Between these terminal stations there are four unattended automatic repeater or relay stations which also provide communication for these intermediate points. Thus the microwave system can provide local communication as well as serve as a section of a through communication route.

This Rock Island project was completed in 1950, and was in development service through the 1950-1951 winter season. Experience indicated the need for modifications. The reflectors were replaced by larger ones and the transmitting equipment was replaced by more powerful units. With these changes this microwave installation is now going through its second winter.

Further Use of Beamed Radio

Other railroads are interested in microwaves. For example, the Southern Pacific made a survey of a proposed microwave installation over rugged mountain terrain between Crescent Lake, Ore., and Eugene. Between these points the railroad mileage is 120 miles, and the proposed microwave route is 80 miles, including 12 radio repeater stations and 8 passive repeaters. The passive repeaters act in the same manner as billiard cushions, reflecting the signal around natural obstacles, without further energizing the signal generated at the terminals and repeater stations. The locations for towers of the proposed repeater stations—on a "line-of-sight" basis—were established in the field by use of kite-balloons known as "Kitoons."

The installations on the Rock Island and the Santa Fe, as well as the surveys and studies being made

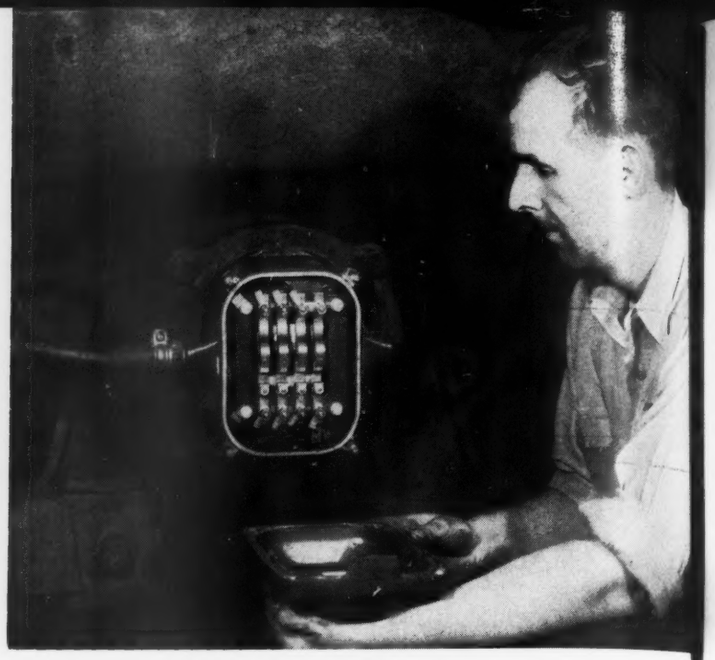
(*Continued on page* 187)

Permanent Installations of Road Train Communication Placed in Service in 1951

Railroad and Location	Miles Road	No. of Locos.	No. of Cboos. or Cars	No. of Fixed Ways. Stas.	Mfr.	Frequency Allocated by F. C. C. Megacycles
A. & S.						
E. St. Louis, Ill.—						
Mitchell, Ill.	21	1			Farnsworth	160.05
A. T. & S. F.						
Winslow, Ariz.—						
Needles, Cal.	293		30		Bendix	160.65
Winslow, Ariz.				1	Bendix	160.65
Seligman, Ariz.				1	Bendix	160.65
B. & O.						
Connellsville, Pa.—	67	10	12	10	Bendix	160.53
Fairmont, W. Va.						160.23
Ban. & Ar.						
Searsport, Me.—			1	2	Farnsworth	159.99
Presque Isle, Me.						
C. of Ga.						
Coosa Pines, Ala.		1			Motorola	
C. B. & Q.						
Aurora, Ill.—	17			2	Motorola	159.69
Hinckley, Ill.						
System	3,386		292*		Motorola	159.69
C. G. W. System	1,500	57	24	2	Ry. Radio Tel. Co.	159.57 160.17
C. M. St. P. & P.						
Savanna, Ill.—						
Council Bluffs, Iowa	346					
Milwaukee, Wis.—						
Tacoma, Wash.	2,207	22	55	5	Bendix	160.77
Milwaukee, Wis.—						
Savanna, Ill.	157					
C. R. I. & P.						
System		14	60*	14	Motorola	161.61
C. S. S. & S. B.		6	12*		Motorola	161.01 161.37
D. L. & W.						
Hoboken, N. J.—	396	2			Bendix	161.37
Buffalo, N. Y.						
Erie						
Marion, Ohio—	268			7	Farnsworth	160.05
Chicago						
Buffalo, N. Y.				1	Farnsworth	160.05
Parkers Glen, Pa.				1	Farnsworth	160.05
System		70	2**		Farnsworth	160.05 159.87
System			5		Farnsworth	160.05 159.87
System			1		Motorola	160.05 159.87
G. B. & W.						
Green Bay, Wis.—	214	5	2		Doolittle Motorola	161.25
Winona, Wis.						
G. M. & O.		2	3		Motorola	161.73
K. C. S.- L. & A.						
Shreveport, La.—	184	5	8		Harmon	
Farmersville, Tex.						
M. P. System	7,139	157	171	6	Motorola	160.41 160.47
G. C. L. System	1,720	52	35		Motorola	160.41
I.-G. N. System	1,100	42	35		Motorola	160.41
N. O. & L. C.	52	2	3	2	Motorola	161.07
N. Y. C. & St. L.						
Buffalo, N. Y.—	523	1			Farnsworth	161.25
Chicago						
N. P.						
Dilworth, Minn.—	410	13	35	13	Bendix	161.25
Glendive, Mont.						161.01
P. R. R.						
Baltimore, Md.—	57	72	25	2	Union	
York, Pa.						
Harrisburg, Pa.—	32			1	Union	
Millersburg						
Pittsburgh, Pa.—	76			2	Union	
Franklin, Pa.						
E. Aurora, N. Y.—	59			2	Union	
Portville, N. Y.						
Renovo, Pa.—						
Emporium, Pa.	45			1	Union	
Emporium, Pa.—						
Corry, Pa.	103			2	Union	
Emlenton, Pa.—						
Titusville, Pa.	60			1	Union	
Toledo Jct., Ohio—	142			5	Union	
Detroit, Mich.						
Hudson, Ohio	75	2		1	Union	
Warwick, Ohio	50			1	Union	
Niles, Ohio	75	1		1	Union	
Pittsburgh, Pa.—	75			3	Union	
Columbus, Ohio						
Plymouth, Ind.				1	Union	
R. F. & P.						
Richmond, Va.—	110	26	18*	5	Motorola	161.55
M. P. 110, Va.						161.67
S. A. L.						
Jacksonville, Fla.—						
Miami, Fla.	395					
Coleman, Fla.—						
Tampa, Fla.	77	2	23*		Motorola	159.81
Baldwin, Fla.—						160.05
Montgomery, Ala.	389					
S. P.						
Watsonville Jct., Cal.—						
Los Angeles, Cal.		6	26		Motorola	161.79
T. & P.						
Texarkana, Tex.—	860	38	44		Bendix	160.41
El Paso, Tex.						
Shreveport, La.—	45	6	4		Bendix	160.41
Marshall, Tex.						
Totals	22,726	615	926	95		

*Walkie-talkie units.
**Business cars.
Note: All installations shown above are space radio, except those on the K. C. S.-L. & A. and P. R. R., which are of the inductive type.

Car retarders are an important part of the equipment in the new classification yard installed in 1951 near Knoxville, Tenn., on the Southern



Speed governor on journal box is part of speed control system coordinated with cab signals and automatic application of brakes, being installed on the Long Island and Pennsylvania

A Progressive Year in Signaling

New adaptations of signal systems, according to volume of traffic, methods of train operation and utilization of tracks, reduce train delays and save operating expenses

By JOHN H. DUNN
Signal and Communications Editor
and ROBERT W. McKNIGHT
Associate Editor

THE OUTLOOK FOR 1952

The total volume of signaling installed in 1951 was less than in any of the previous six years, a result primarily of shortages of materials caused by government restrictions. As a consequence, an exceptionally large backlog of postponed signal construction is accumulating, to be undertaken as soon as material shortages and other unfavorable conditions are alleviated.

Because of restrictions in the use of materials, less new signaling was placed in service in 1951 than in the previous year. The reductions in the various phases of signaling are indicated in the accompanying table of comparisons. These statistics include projects reported as being completed in 1951, but are not truly indicative of the volume of equipment sold, because several large projects were under way as the year ended. Also, a considerable amount of new equipment is used to make replacements which are not reported with new projects.

As an aid in reducing requirements for steel, much of the new signaling in 1951 was planned and installed to utilize existing tracks more effectively, or to handle all the trains on one track, thus permitting removal of second track. On some sections of double-track, new signaling is arranged to run trains in both directions on both tracks. Power crossovers, at intervals of 7 to 10 miles, and signals to authorize train movements, are included in these centralized traffic control projects. With this system, idle track is used to run fast trains around slower ones in the same direction, so keeping all trains moving.

In 1951, the Illinois Central installed such a C.T.C. system on 20 miles between Otto Ill., and Gilman, and the Norfolk & Western on 5 miles between Maybeury, W. Va., and Powhatan, and 8 miles between Big Four, W. Va., and Farm. Plans are under way to extend this signaling between Powhatan and Big Four, to make continuous C.T.C. from Bluestone to Farm, 26 miles. The Richmond, Fredericksburg & Potomac has a long-range program to change from right-hand operation, on its double track line, to operation in either direction on both tracks, the intermediate interlockings to be controlled by a C.T.C. machine in the dispatcher's office at Richmond, Va. The first step of this project, extending 20 miles north from Richmond, is now under construction. This

so-called double-running on two tracks under C.T.C. control is not new, having been in service for several years on extended sections of such roads as the Rock Island and the Chicago & North Western. The point of importance now is that a great many other roads are realizing the advantages of this practice.

Double to Single Track with C.T.C.

On the other hand, a change from double track to single track, with C.T.C., has been made on extended sections on some railroads. Several factors have contributed to the practicability of doing this. Diesel locomotives haul longer trains at higher average speeds, thus reducing the number of trains in a given territory. Centralized traffic control, with signals for authorizing train movements, minimizes the time lost in making meets. On one 200-mile division of double track, handling both passenger and freight traffic, an analysis shows that through freight trains would actually save time if the existing double track, with hand-throw sidings, were changed to single track with C.T.C. including power sidings and signals to authorize train movements without the use of train orders.

It is urgent to make such changes at this time to obviate replacement of extended mileages of rail due for renewal, and at the same time to recover rail than can be used on secondary lines or in yards. An an example of the expenses involved in replacing rail, one railroad which is to lay new rail on 302 track miles in 1952 estimates the cost for new materials, including rails, ties, tie plates, frogs, and switches, will average $28,758 per mile.

One 62 miles of the Milwaukee, where one track was removed, so that renewal of rail was on one track instead of two, and C.T.C. was installed, the saving was $1,500,000. On 56.7 miles, where the Erie converted from double to single track with centralized traffic control, the net salvage value of rail was $439,000 (*Railway Age*, October 1, 1951). The estimated saving in track maintenance on

AUTOMATIC INTERLOCKINGS INSTALLED IN 1951

Railroad and Location	Number of Signals	Manufacturer
C. & E. I.		
Goodwine, Ill.	4	
C. G. W.		
Sycamore, Ill.	6	Union
Waterloo, Iowa	4	Union
C. R. I. & P.		
Louisville, Neb.	4	
Chichasha, Okla.	5	
Elkton, S. D.	4	
Hayfield, Iowa	4	
Bowie, Tex.	5	
Erie		
Owego, N. Y.	10	Union
G. N.		
Devils Lake, N. D.	4 4**	G. R. S.
M. & St. L.		
Linby, Iowa	4	
M. St. P. & S. Ste. M.		
Conway, N. D.	4	G. R. S.
M. P.		
Pine Bluff, Ark.	5	G. R. S.
Gulf Coast Lines—Robstown, Tex.	6	G. R. S.
N. Y. C. & St. L.		
Kimball, Ohio	5 1*	Union
P. R. R.		
Red Key, Ind.	7	
St. L.-S. W.		
Waco, Tex.	4	Union
S. A. L.		
Live Oak, Fla.	6	Union
Edgeton, N. C.	8 4*	Union
Cedartown, Ga.	2	Union
Wellington, Ala.	2	Union
Virginian		
Roanoke, Va.	4	G. R. S.
Totals	116	

*Switch machine.
**Smashboard.

CENTRALIZED TRAFFIC CONTROL INSTALLED IN 1951

Railroad and Location	Miles of Road	Levers	Power Switches	Lever Controlled Signals	Intermediate Signals	Manufacturer
A. T. & S. F.						
Slaton, Tex.—Lubbock	13.7s	19	6	19	4	Union
A. C. L.						
Pee Dee, S. C.—Florence	2.5s 10.0d	23	12	22	11	Union
B. & O.						
Rosemont, W. Va.—Bridgeport	5.6s	92	4	10	6	G. R. S.
Clarksburg, W. Va.—Parkersburg	80.7s		40	107	84	G. R. S.
C. N.						
Hornepayne, Ont.—Foleyet	147.8s	78	22	98	21	Union
C. of Ga.						
Collier, Ga.—Barnesville	9.9s	4	2	6	6	Union
C. & O.						
Chesapeake District						
Bremo, Va.—Strathmore	3.0d	2	1	1		Union
St. Albans, W. Va.—Scott	7.0d	20	18	22	4	Union
Beaver Jct., Ky.—Shelby	29.0s 1.5d	36	11	41		Union
Cheviot, Ohio—Newkirk	25.0s	26	9	31	9	Union
C. B. & Q.						
Seneca, Neb.—Alliance	106.8s	48	15	53	46	G. R. S.
Burlington, Iowa—Connett, Ill.	.6d	16	3	9		Union
Weston, Mo.—Beverly	3.5s	3	1	5	2	Union
C. M. St. P. & P.						
St. Paul, Minn.—South Minneapolis	9.0d	29	13	28	10	Union
C. R. I. & P.						
Sandown, Colo.—Belt Jct.	3.9s	3		4	4	Union
Erie						
Buffalo, N. Y.—Portage	56.9s	21		18	40	Union
L. & N.						
Cedar Hill, Tenn.—Amqui	28.0s	21	10	41	12	G. R. S.
M. P.						
Poplar Bluff, Mo.—Dexter	26.0s	15	7	30	17	G. R. S.
Middlebrook, Mo.—Cliff Cave	70.0s	34	17	68	55	G. R. S.
North Little Rock, Ark.	1.3d	17	8	17		G. R. S.
Gulf Coast Lines						
Vanderbilt, Tex.—McFaddin	28.7s	10	5	24	23	G. R. S.
Int.-Gt. Northern						
Houston, Tex.—Aldine	8.0s	4	2	8		G. R. S.
N. Y. C. & St. L.						
Claypool, Ind.—Argos	20.5s	13	6	10	8	Union
N. & W.						
E. Elliston, Va.—W. Elliston	2.6d	18	14	19		Union
Phoebe, Va.—Island Yard	13.2s 0.7d	17	9	14	6	Union
Wilmore, W. Va.—Iaeger	5.4d	12	9	13	4	Union
Auville, Yd., W. Va.—Iaeger	0.6d	6	5	7		Union
P. & L. E.						
Pittsburgh, Pa.—Hays	2.8d	52	21	36		Union
St. L.-S. F.						
Willow Springs, Mo.—Thayer	46.0s	14	5	21	18	Union
Fort Scott, Kan.—Edwards	3.5d	2	1	4	5	Union
Arloe Yd., St. Louis, Mo.—S. E. Jct., St. Louis	1.5d	2		4		Union
Fort Scott, Kan.—Hammond	6.0s	6	3	9	2	Union
Pacific, Mo.—Valley Park	16.0s	8	4	12	6	Union
S. A. L.						
Dallas, Ga.—Birmingham, Ala.	136.0s	119	46	116	38	Union
Southern						
Ala. Gt. Sou. Burstall, Ala.—Akron	69.0s	36	14	48	55	G. R. S.
U. P.						
Topeka, Kan.—Menoken	5.0s	6	11	29	6	Union
Provo, Utah—Geneva	6.0s	1		5	2	Union
W. P.						
Gerlach, Nev.—Weso	97.3s	43	20	80	52	Union
Totals	1155.0s 49.5d					
Miles of Road	1204.5					
Miles of Track	1254.0	931	396	1,153	587	

NEW AUTOMATIC BLOCK INSTALLED IN 1951

Railroad and Location	Miles of Road	Number of Signals	Manufacturer
A. T. & S. F.			
B. C. Jct., Mo.—St. Joe	6.4s	4	Union
Lubbock, Tex.	3.1d	9	Union
A. C. L.			
Dillon, S. C.—Pee Dee	18.0	18	Union
B. of T. City of N. Y.			
New York, N. Y.	1.0f	32	G. R. S.
	2.5d	24	Union
B. & M.			
E. Northfield, Mass.—Putney, Vt.	18.0s	24	G. R. S.
	1.3d		
C. N.			
Hornepayne, Ont.	3.0s	3	Union
Harrowsmith, Ont.	2.7s	4	G. R. S.
Canfield Jct., Ont.	7.9s	4	G. R. S.
Jasper, Alta—Red Pass Jct., B. C.	43.6s	68	G. R. S.
G. T. W.			
Pontiac, Mich.—W. Pontiac	4.0d	7	Union
C. P.			
Nipigon, Ont., Current River	61.5s	86	Union
Taft, B. C.—Salmon Arm	5.2d	69	G. R. S.
	41.0s		
C. & N. W.			
Mankato, Minn.	0.8s	4	G. R. S.
C. & W. I.			
B. Ry. of Chicago—Chicago	3.0d*	4	Union
C. R. I. & P.			
Roland, Ark.—Hot Springs Jct.	23.1s	29	Union
C. of Chicago			
Congress—Damen Ave.	4.0d	120	Union
D. L. & W.			
Painted Post, N. Y.—Savona	9.0d	9	Union
D. & R. G. W.			
Salt Lake City, Utah	3.0s	2	G. R. S.
E. J. & E.			
Spaulding, Ill.—Munger	4.1s	6	G. R. S.
Wayne, Ill.—W. Chicago	4.3s	8	G. R. S.
I. C.			
Greendale, Ill.—Bluford	21.7s	29	Union
Rust, Ill.—Saline	28.1s	44	Union
Bristol, Ill.—Reevesville	3.7s	5	Union
Reevesville, Ill.—Metropolis	12.9s	21	Union
K. C. S.			
Baton Rouge, La.—New Orleans	73.0s	78	G. R. S.
L. I.			
Great Neck, N. Y.—Port Washington	3.6s	6	Union
Me. C.			
Danforth, Me.	0.8s	6	G. R. S.
Waterville, Me.—Waterville E.	0.7d*	1	G. R. S.
M. St. P. & S. Ste. M.			
Wheeling, Ill.	39.9s	63	G. R. S.
Burlington, Wis.	3.1d		
M.-K.-T.			
Granger, Tex.—Elgin	29.1s	39	Union
Smithville, Tex.—La Grange	18.1s	18	Union
N. Jefferson, Mo.—McBaine	26.1s	31	Union
N. Y. C.			
St. Johnsville, N. Y.—Palatine	11.3f	46	G. R. S
B. & A.			
Post Road, N. Y.—Rensselaer	11.2s	14	G. R. S.
	1.0d		
Chester, Mass.—Hinsdale	17.5d	30	G. R. S.
N. Y. N. H. & H.			
Boston Sw. R. I.—Lonsdale	2.2d	2	Union
Lonsdale, R. I.—Millbury, Mass.	32.2s	34	Union
Millbury, Mass.—S. Worcester	3.2d	5	Union
N. P.			
Livingston, Mont.	0.5s	2	G. R. S.
	0.5d		
Reading			
E. Mahanoy Jct., Pa.—Lofty	6.7d	10	Union
Shamokin, Pa.—Herndon Br. Jct.	1.6d	4	Union
Neshaminy Falls, Pa.—Glenlake	4.2f**	2	Union
Glen Moore, N. J.—Belle Mead	11.5f***	4	Union
S. P. & S.			
Cambrai, Ore.—Kaskela	23.0s	24	G. R. S.
Metolius, Ore.—Bend	40.0s	31	G. R. S.
King, Wash.—Finley	34.0s	48	G. R. S.
U. P.			
Hinkle, Ore.—Wallula	28.0s	58	Union
Totals	645.3s		
	86.6d		
	11.5t		
	16.5f		
Miles of Road	759.9		
Miles of Track	919.0	1,189	

*One track of double track road.
**Reverse signaling on one track of four tracks.
***Reverse signaling on one track of three tracks.

CROSSING PROTECTION INSTALLED IN 1951

Railroad	Number of Crossings Protected	Number of Flashing Light Signals	Number of Electrical Gates	Sources of Funds Number of Crossings: Railroad	Public	Joint
A. T. & S. F.	66	130	16	41	5	20
A. & W. P.	2	4		2		
Ga. R. R.	3	6		1		2
A. C. L.	52	104	26	39		13
B. & O.	62	131	30	50		12
Ban. & Ar.	10	10				10
B. & L. E.	1	2		1		
B. & M.	18	68	27	14		4
C. N.	40	84	10			40
G. T. W.	4	9	2		2	2
C. P.	20	40				20
C. of Ga.	11	25		2		9
C. of N. J.	6	27	12	6		
C. of Pa.	1	4	2	1		
N. Y. & L. B.	2	8	4	2		
C. V.	1	2		1		
C. & O.						
Ches. Dist.	10	12	13	8		2
P. M. Dist.	13	28	9		2	11
C. & E. I.	7	14	10	3		4
C. & I. M.	2	4		2		
C. & N. W.	29	64	28	12		17
C. B. & Q.	18	38	25	11	1	6
C. G. W.	6	8				6
C. M. St. P. & P.	28	4* 66	30	4	13	11
C. N. S. & M.	7	7	7	5	2	
C. R. I. & P.	48	70	28	26	7	15
C. S. S. & S. B.	1		2	1		
C. & S.	2	17				2
D. & H.	9	19	18	9		
D. L. & W.	15	65	30	15		
D. & R. G. W.	6	4	8	5	1	
D. T. & I.	1	2				1
D. S. S. & A.	3	6				3
E. J. & E.	6	14	18	4		2
Erie	44	116	38	40		4
F. E. C.	15	30	28	14	1	
G. & F.	4	8				4
G. N.	22	40*	4	15		7
G. M. & O.	12	8	16	9	2	1
I. C.	31	34	27	15	3	13
I. T.	2	4				2
K. C. S.	18	36	2	7	2	9
K. & I. T.	1	2		1		
L. & H. R.	2	8		2		
L. V.	5	16	8	4		1
L. I.	9	37	30	9		
L. & N.	10	22	8	8	1	1
Me. C.	8	24	9	4		4
P. T. Co.	1	2		1		
M. & St. L.	1	2				1
M. St. P. & S. S. M.	11	23		3		8
M.-K.-T.	15	31		4	1	10
M. P.	27	55	18	15	1	11
Gulf Coast Lines	11	22		11		
Int.-Gt. Northern	19	38		16		3
Monongahela	1	2		1		
N. Y. C.	42	87	115	35	1	6
B. & A.	4	8		4		
C. C. C. & St. L.	45	103	65	41		4
I. H. B.	2	4	4		2	
M. C.	20	47	32	12	2	6
N. Y. C. & St. L.	20	44	8	10	1	9
N. Y. N. H. & H.	60	82	38	55	5	
N. Y. O. & W.	1	2		1		
N. & W.	31	64	10	29	1	1
N. P.	19	29	10	15		4
P. E.	16	30	2	1	3	12
P. R. R.	85	177	116	64	3	18
P. R. S. L.	6	48	18	6		*
P. & L. E.	6	15	6	6		
Q. C.	1	3				1
R. F. & P.	5	8	8 4**	1		4
Reading	13	42	22	13		
St. L.-S. F.	33	66	2	21		12
St. L. S. W.	5	10		4		1
S. A. L.	26	55	4	9	7	10
S. P.	30	58	6	7	2	21
T. & N. O.	40	77	4	28	1	11
Southern	24	50	12	12	1	11
A. G. S.	1	2				1
C. N. O. & T. P.	1	2				
G. S. & F.	5	10	2	2		3
N. O. & N. E.	2	4		2		
N. O. T.	2	4		2		
S. P. & S.	5	10	2	4	1	
T. C.	7	14		7		
T. R. R. A. St. L.	3	6	6	3		
T. & P.	11	22	2	5		6
T. P. & W.	5	10		5		
T. H. & B.	6	12				6
U. P.	20	42	16	10		10
Virginian	1	2				1
Wabash	17	30	4	8	8	1
W. M.	4	8		2		2
W. P.	3	6		1		2
Totals	1,406	2,953	1,057	870	82	454

*Rotating stop disc.
**Traffic signal.

this section is $92,000 annually. On three sections totaling 66 miles, the Southern converted from double to single track with centralized traffic control thus recovering a large tonnage of rail as well as 180,000 usable ties and 100,000 cu. yd. of good slag ballast which were badly needed for construction of a new yard.

On short sections of single track where an increase in the number of trains indicates the need for second track, an installation of centralized traffic control can be the means of increasing the capacity of the single track sufficiently to postpone the construction of second track until steel and other materials are more readily available.

On many sections of single-track lines complete centralized traffic control, including power switches and signals for authorizing train movements, is being extended as rapidly as possible. For example, the Seaboard Air Line completed a project on 136 miles of single track between Atlanta, Ga., and Birmingham, Ala., and the Atlantic Coast Line, 94 miles between Manchester, Ga., and Cordele. In 1951 the Western Pacific installed C.T.C. on 97 miles between Gerlach, Nev., and Weso. A second project, on 93 miles between Alazon, Nev., and Wendover, Utah, will be finished early in 1952. Also this program will be extended on 122 miles from Wendover to Salt Lake City, thus completing centralized traffic control on 746 miles of the 928-mile line of the Western Pacific between San Francisco and Salt Lake City. On 182 miles between Winnemucca, Nev., and Alazon, the Western Pacific and the Southern Pacific use paired tracks, which are signaled.

C.T.C. Rather Than Automatic Block

In 1951 the Burlington completed a 238-mile project (*Railway Age*, November 11, 1951) which is an excellent example of a trend to install a simplified form of C.T.C. rather than automatic block, on a through single-track route, not previously signaled, where traffic is relatively light. On this Burlington line there is a normal movement of 9 trains daily, with a maximum of 15. A centralized traffic control project of somewhat the same nature was installed in 1951 on 148 miles of the Canadian National between Hornepayne, Ont., and Foleyet.

The simplification adopted by the Burlington consists of installing a power switch and C.T.C.-controlled signals at only one end of sidings, and a spring switch at the other. The objective in situations like those on the Burlington and the Canadian National is to adopt a form of centralized traffic control that is simplified, in line with the requirements of light traffic, so that the cost will be not too much more than that for conventional automatic block.

On sections of single-track main line not previously signaled, and where the traffic is not considered by some roads to be sufficient to warrant centralized traffic control, improved forms of automatic block signaling have been installed, primarily as protection. For example, in 1951 the Soo Line completed an installation of automatic block on 260 miles of single track between Spencer, Wis., and Wheeling, Ill., on the route between Minneapolis and Chicago. The traffic in this territory includes 4 passenger trains and about 8 freight trains daily. In this project, signals were not installed at sidings which are not to be used for making meets. Spring switches are in service at 31 ends of sidings. At the equipped sidings, complete arrangements of signals, including leave-siding dwarfs, were installed.

This practice provides complete protection now; it facilitates moves from sidings; and it has the advantage that no changes or additions will be required in these signals if centralized traffic control is installed later. Another interesting feature of this project is the use of call-on aspects to avoid train delays. This arrangement will be fully explained in an early issue of *Railway Signaling & Communications*.

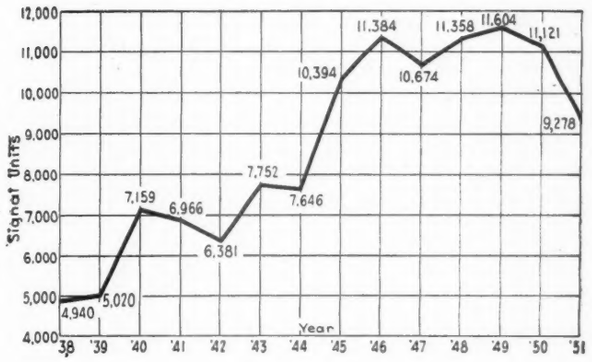


Chart showing signaling units installed each year

Train Control and Cab Signaling

In March 1951 the Pennsylvania announced an appropriation had been approved for installation of automatic speed control, in conjunction with cab signals and automatic application of brakes, on 1,100 route miles. The lines involved include New York to Washington; Philadelphia via Pittsburgh to Indianapolis; Baltimore to Harrisburg; and Jersey City to Bay Head Jct. Cab signaling, which is a necessary part of this new system, had previously been provided for. The new project is being expedited as much as possible—completion being scheduled with a year.

The Long Island is spending $6,000,000 to install speed control, including cab signaling and automatic application of brakes, on 165 track miles, involving about 310 multiple-unit electric cars and 40 locomotives. This system has been put in service on 28 miles. The equipment is in place on nearly 100 cars, and others are being equipped at the average rate of one each working day.

During 1951 the Union Pacific installed three-indication coded control cab signaling on a total of 66.2 miles of single track and 167.6 miles of double track, including new equipment on 29 locomotives. The territories equipped are: The Dalles, Ore., to Troutdale; Grand Island, Neb., to Summit; and North Platte, Neb., to Sidney.

The Santa Fe has an extensive program to install intermittent automatic train stop including automatic application of brakes. The major portion of the wayside equipment was installed on approximately 953 miles in 1950 and has been carried on in 1951. A large percentage of locomotives operated on the lines involved have been equipped.

The Chicago & North Western is installing intermittent inductive train stop, which includes automatic application of brakes, on 226 miles between Chicago and Wyeville, Wis., via Milwaukee, on the route of the "400" to St. Paul and Minneapolis. Ninety miles of the train stop territory is single track and the remainder is two tracks or more. About 35 per cent of the wayside train stop equipment had been installed, and about 20 per cent of the locomotives had been equipped as of January 1.

The Burlington has started an installation of cab signaling on 233 miles of road between Chicago and Mt. Pleasant, Iowa, and 368 miles between Aurora, Ill., and Prescott, Wis. At the present time, work is under way to

Comparison of Annual Signal Construction

	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939
Automatic block signals	1,189	1,133	1,974	1,711	2,269	3,078	2,350	1,539	1,690	1,421	1,407	1,017	879
Interlockings:													
Signals and switches													
At new plants	879	1,150	863	1,074	857	1,529	9,910	851	1,498	785	518	1,024	396
At rebuilt plants	405	633	864	665	408	993	940	687	760	554	693	734	545
At automatic plants	116	106	132	80	83	132	88	62	55	78	80	125	96
Spring switches:													
Spring buffer mechanisms	163	272	242	264	356	554	764	382	448	284	275	294	222
Mechanical facing-point locks	58	110	73	107	107	248	341	115	88	126	159	97	104
Signals at spring switches	280	578	455	516	491	707	991	553	498	384	354	336	228
Centralized traffic control:													
Power switch machines	396	430	496	565	538	453	633	596	463	263	190	121	38
Semi-automatic signals	1,153	1,309	1,428	1,725	1,810	1,385	2,217	2,141	1,775	1,030	675	375	122
Intermediate signals in C. T. C. territory	587	674	590	738	853	....	....	....	....	....	....	....	....
Classification yards:													
Car retarders	10	68	110	100	23	18	14	25	....	51	....	11	2
Power switch machines	32	172	245	192	27	73	57	52	....	108	....	19	3
Highway crossing protection:													
Protective units	4,010	4,486	4,132	3,261	2,852	2,214	1,089	643	477	1,297	2,615	3,006	2,385
Totals	9,278	11,121	11,604	11,358	10,674	11,384	10,394	7,646	7,752	6,381	6,966	7,159	5,020

NEW INTERLOCKINGS INSTALLED IN 1951

Railroad and Location	Number of Home Signals	Number of Switches	Manufacturer
A. T. & S. F.			
McCook, Ill.	3	1	
New Boston, Iowa	5	1	
B. C. Jct., Mo.	3	1	
Lubbock, Tex.	6	8	
Kincaid, Cal.	2		
A. C. L.			
Mapel, S. C.	8	4	Union
B. & O.			
Philadelphia, Pa.	13	13	G. R. S.
Ivorydale Jct. (Cincinnati), Ohio	16	12	G. R. S.
Greene Jct., Pa.	3		G. R. S.
Hancock, W. Va.	10		G. R. S.
Vincennes, Ind.	9	1	G. R. S.
Erie Jct., Lima, Ohio	15	5	G. R. S.
St. George, N. Y.	36	43	G. R. S.
12th St., Washington, D. C.	12	12	G. R. S.
B. of T. City of N. Y.			
New York, N. Y.	34	28	G. R. S.
C. & W. I.			
Chicago	1	1	Union
C. G. W.			
St. Paul, Minn.	3	1	Union
C. of Chicago			
Chicago	6	4	Union
D. & H.			
Plattsburg, N. Y.	2	1	G. R. S.
D. & R. G. W.			
Salt Lake City, Utah	35	19	G. R. S.
E. J. & E.			
Gary, Ind.	13	25	G. R. S.
Erie—North Warren, Ohio	6		Union
G. M. & O.			
Glen, Ill.	5	3	G. R. S.
Me. C.			
Waterville East, Me.	6	4	G. R. S.
M. P.			
North Little Rock, Ark.	8	6	G. R. S.
Int.-Gt. Northern			
Palestine, Tex.	7	4	G. R. S.
N. Y. C.			
Fort Plain, N. Y.	8	12	G. R. S.
B. & A.			
Rensselaer, N. Y.	3	1	G. R. S.
M. C.			
Detroit, Mich.	8	9	G. R. S.
Wayne, Mich.	2		G. R. S.
N. Y. C. & St. L.			
Fort Wayne, Ind.	7		Union
N. Y. N. H. & H.			
Putnam, Conn.	8	4	G. R. S.
P. E.—Kincaid, Cal.	4	2*	Union
P. R. R.			
30th St., Philadelphia, Pa.	81	77	Union
Rosslyn, Pa.	32	25	Union
Reading			
Tulpehocken Bridge, Pa.	4	2	G. R. S.
Wyomissing Jct., Pa.	10	8	G. R. S.
Glenlake, Pa.	4	2	G. R. S.
Woodbourne, Pa.	3		G. R. S.
S. P.			
Roseville, Cal.	12	5	Union
T. & N. O.			
El Paso, Tex.	14	12	Union
Houston, Tex.	6	3	G. R. S.
Southern			
Fairfield, Ill.	5		
Austell, Ga.	6	4	
Spartanburg, S. C.	6	4	
S. P. & S.			
South Jct., Ore.	3	1	G. R. S.
Virginian			
South Norfolk, Va.	10	10	G. R. S.
Totals	503	376	

*Electric switch locks.

rearrange the blocks on 38 miles of multiple track between Aurora and Union Avenue interlocking in Chicago. This section has three or more main tracks. Forces have been organized in the Burlington shop to install cab signaling equipment on the locomotives. This work has been completed on several locomotives, and others are being equipped as equipment is available.

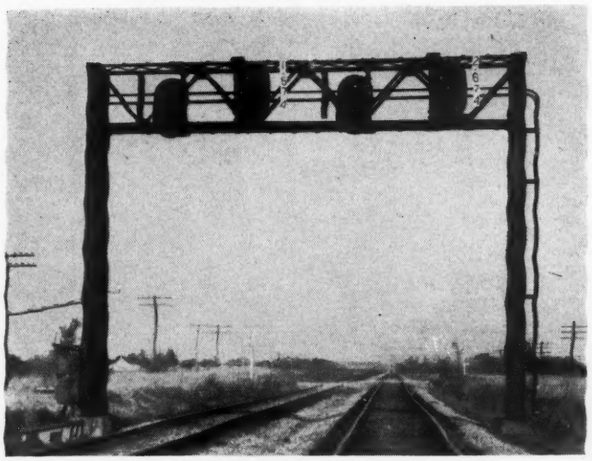
Retarders in Classification Yards

In order to reduce delays to freight cars, many roads are constructing new classification yards which include such modern signal facilities as power switches, signals and car retarders. One such project, the John Sevier yard of the Southern, was described in the August 6, 1951, *Railway Age*. The Southern is making a similar installation in a new yard at Birmingham, Ala., the Southern Pacific in a yard at Sacramento, Cal., the Milwaukee in a yard at Milwaukee, Wis., the Elgin, Joliet & Eastern in Kirk yard near Gary, Ind., and the Illinois Central in its northbound Markham yard.

The only car retarder project reported to us as being completed in 1951 is that on the Reading in the eastbound Rutherford yard near Harrisburg, Pa. This project, with 32 power switches and 990 rail feet of retarders, includes the comparatively new system of automatic switching control in which the switches for a complete route, from the hump to a classification track, are all lined up just by pushing a button marked for that track. The Rutherford yard is the first in which these push-button controls, as well as the control of the retarders, are all combined in one "T" type control panel in the top floor of the control tower.

During 1951, highway crossing protection was installed at 1,406 crossings, employing 2,953 flashing-light signals and 1,057 gates. At crossings with two or more main tracks, or with single track handling fast trains, the tendency is to install gates, this being evidenced by the fact that more than a thousand gates were installed in 1951. Crossing protection construction will continue at a high level, depending on materials available, because increased street and highway traffic brings a need for complete protection in service 24 hours every day. Numerous projects of this nature are being delayed by shortages of signaling equipment and insulated wire and cable.

During 1951 centralized traffic control was completed on 1,254 track miles, including 396 power switches, 1,153 controlled signals and 587 intermediate signals, these



Signals for both directions on both tracks were installed as part of a C.T.C. project on the Illinois Central

figures being less than in 1950. A total of 47 new interlockings were installed in 1951, with 503 home signals and 376 power switches. Thirty-one interlockings were rebuilt, including 264 home signals and 141 switches added. A total of 22 new automatic interlockings include 116 signals. Approximately 163 spring switch mechanisms were installed, 58 of which included automatic mechanical facing-point locks, and 280 signals were installed to protect train movements at these spring switches.

Modified centralized traffic control, with power switch at one end of a siding and spring switch at the other, was installed on 238 miles of the Burlington

COMMUNICATIONS EXPANDED

(*Continued from page* 181)

on other railroads, are forerunners of what may logically be extensive progress in microwave on railroads.

During 1951 further improvements were made in the use of loudspeaker communication systems in yards, terminals and freighthouses, as a means of saving shoe leather and man-hours and in general expediting operations. A very complete system of communications was included in the new John Sevier yard, described in *Railway Age* August 6, 1951. One feature of this installation is the use of so-called dwarf speakers between tracks, and separate systems of communications for various purposes. A new communications project in a yard at Bellevue, Ohio, on the Nickel Plate has two control consoles in separate towers, a novel feature being that all the circuits can be cut through to one tower during hours of light traffic. In 1951, several decided improvements were developed in special communications facilities used in l.c.l. freighthouses. Some roads prefer talk-back speakers and others favor portable handsets. A detailed discussion of this subject appeared in the November *Railway Signaling & Communications.*

Other Communications

Other communications facilities completed in 1951 are listed in tables in the January issue of *Railway Signaling & Communications.* For example, 7,112 miles of pole line on railroads was rebuilt, and 75,272 miles of new line wire was installed. By superimposing carrier on existing line wires the railroads, in 1951, derived 15,121 circuit miles for new long-distance telephone service, and 69,647 miles for telegraph and printing telegraph. Last year 37 railroads installed 19,200 miles of new long-distance telephone circuits, 3,108 miles being on the Southern Pacific and 1,417 on the Atlantic Coast Line. Eleven railroads installed new telephone train dispatching on a total of 1,600 miles, of which 639 miles were on the Canadian National and 408 miles on the Milwaukee.

Passenger Train Installations

On its new "Empire Builder" trains, the Great Northern installed complete communications systems including intercar telephone in 12 cars, public address loudspeakers in 42 cars, radio in 36 cars and magnetic recorded music players, operating through loudspeakers, in 6 cars.

On several roads power machines and trucks are being used in the railroad communications field to a decided advantage. On the Canadian National a tractor-driven air compressor with auxiliary equipment, including a winch, made a net saving of $3,763 on one job including the digging of 588 pole holes. Two line construction trucks with combination pole and cable reel trailers cost $10,247 each. With one of these trucks a crew of seven to nine men have been doing the work formerly done by a 16-man crew. The saving from the $10,247 outlay has been estimated as $6,600 in five months.

Electrical Highlights in 1951

By ALFRED G. OEHLER
Electrical Editor

Personnel training now the most important requirement of locomotive and passenger car maintenance

Diesel-electric locomotives continue to hold the center of the stage insofar as the addition of electrical equipment to railroad service is concerned. Units now in service on Class I railroads total approximately 17,500, representing about 23,000,000 hp. Traction motors and generators on locomotives must both have this capacity, making a total of 46,000,000 hp., not counting auxiliary machines. Actually these machines must have a capacity 1.8 times that of standard electrical machines since they must develop rated horsepower over a wide speed range. Thus, from a maintenance point of view, the railroad and manufacturers' service shops must keep in service electrical machinery which totals more than 80,000,000 hp.

The transition from steam to diesel has been so fast that it is remarkable that the railroads have been able to cope with the situation. This is coupled with the fact that nearly half of the maintenance work is electrical, and there are not enough electrical workers to go around. Railroad men with a mechanical background are available, and the only way out of the situation is to train these men to do electrical work. This involves many difficulties since it should be done quickly.

To fulfill the requirements of the situation, the manufacturers' schools and the railroads' own courses of instruction with their demonstration cars are doing a wonderful job. It is surprising that under the circumstances motive power has served so well, and it seems certain that unit operating and maintenance costs will come down as these training courses are continued. And because of normal turnover of railroad staffs, it appears that such training must be continued indefinitely. The diesel requires precision, cleanliness and technical skills unknown to the maintainers of its steam predecessor.

One of the past year's developments of considerable importance comes from studies of wheel slip. These have shown wheel slip at high and low speeds which have reduced locomotive output and caused damage to equipment. In turn, the manufacturers have produced wheel slip and slide preventive devices which effectively prevent these conditions.

Straight electric traction has been highlighted by the building of two new types of electric locomotives which are now undergoing trials by the purchaser. One employs series a.c. motors which are capable of relatively slow-speed, full-load operation, and the other is a rectifier type locomotive which takes a.c. power at 11,000 volts from the contact system, and delivers direct-current power to the d.c. traction motors. Both receive a.c. power at 25 cycles.

In a sense both of these locomotives are countertypes of motive power being developed in continental Europe and in England. The primary difference is that the latter are designed for use on 50 cycles or commercial frequency. These developments are in part responsible for a

renewed interest in electric traction in this country. It is felt by some that rising prices of oil may increase the attractiveness of electric traction, and that this might be further increased by the use of commercial frequencies on the overhead wire. With 60 cycles on the contact system, its cost would be reduced, and no power conversion would be required.

Improved types of both a.c. and d.c. motors also have been developed for multiple-unit cars. These provide for very definitely improved train performance. The gas-turbine locomotives have operated satisfactorily, but little new information concerning their operation has been made available during the past year.

Shops in the Transition Phase

Diesel service shops for running repairs have been developed to a general pattern which seems to be quite effective for this purpose. Shops for major repairs are still a long way from any form of standardization. The condition prevails because the transition from steam to diesel has been so fast that it was difficult to anticipate the requirements. This lag has also had its advantages, since the requirements have changed with the development of locomotives. One reason for uncertainty is the electric shop. Some roads have gone in boldly with facilities for rewinding motors, while others have limited motor shop work to general overhaul, sending motors for rewind to manufacturers' service shops. Most of the larger shops do at least a part of the rewinding, the situation being influenced considerably by the availability of men capable of doing the work.

New shop equipment to facilitate work in the railroad shops is constantly being developed. Notable among the devices are two surge comparison testers which aid materially in assuring that an overhauled motor going back into service will operate without early failure. High-frequency soldering machines for soldering coils to commutator risers are finding favor and one railroad has installed a dip-soldering machine large enough to take generator armatures. The use of silicone coil insulation for motors is now regular practice, and an elastic silicone tape for field coils has proved its value in avoiding damage caused by loose coils.

It has long been suspected that high-frequency vibration caused by poor pinion and gear alinement with the resultant formation of steps on gear teeth is a cause of early motor failure. One road has developed a gear contour grinder to prevent possible damage from this cause.

Car Equipment

Much new passenger car equipment has been produced. Diesel-electric undercar power plants have shown their ability to met railroad service requirements. Parallel operation of such plants has been proved satisfactory, and one railroad has equipped alternate cars of its newest train with axle generators and diesel engine-driven generators. Another road regularly train-lines a diesel generator with the axle generators on the same train. Still another, which has a heavy load requirement on a grill car with a layover period at a point without standby power, has met the situation by using a propane-engine generator on the car to take care of overload and standby requirements. In one case, a propane-engine generator has been run continuously over a long period without failure, using only a starting battery on the car. Opposed to this procedure is a new standby power installation on one road which has effectively prevented power failures on trains equipped only with axle generators.

Sealed compressors for air conditioning have been operating successfully, and improved types of air conditioning have been introduced. Dependability of car wiring has been improved by the use of compression-type connectors.

The use of dry ice for food refrigeration in dining cars has been developed to a point at which it performs satisfactorily.

As in the diesel shop, there is a shortage of trained manpower. Cars at times go out of the yards without adequate electrical inspection, with the hope, for example, that a generator will make another run without attention. This situation was stressed at the September meeting of the Electrical Sections of the Association of American Railroads, and it was pointed out that from a public relations point of view, a car failure may be more important than a locomotive failure.

New Developments

During the past year, a number of new lighting units and some new types of lamps have been introduced. The cleaner diesel shop, and the requirements of precision work have both served to make railroad shop operators more light conscious, and better installation with higher light levels are making railroad shops look like they never looked before. Railroad stations and drafting rooms have both benefited considerably. One of the improved light sources is a high-intensity mercury lamp in a fluorescent-coated enclosure which produces enough light in the red end of the spectrum to preclude the necessity of mixing incandescent light with mercury to produce satisfactory color. Larger incandescent lamps with sealed-in reflectors have also been made available.

Improved methods of producing caboose power for train communication have been developed to a point where they no longer act as a deterrent to this application. There are still differences of opinion concerning the desirability of converting all generated power to 110 volts a.c., or using 12-volt power directly for tube filaments.

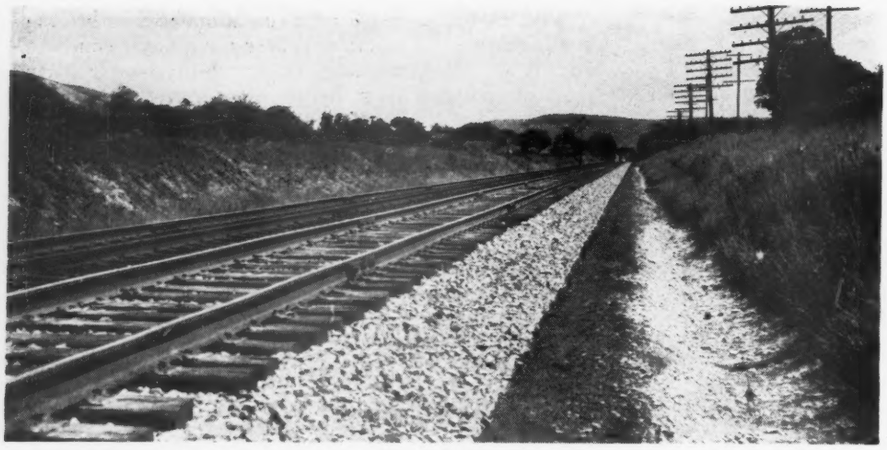
An electromechanical train performance calculator developed by a railroad quickly computes and records information required to determine the economics, schedules and proper tonnage ratings for all types of motive power. Such information was previously assembled from a large number of tedious step-by-step mathematical calculations.

Increased use of battery-powered industrial trucks in railroad service shows a growing appreciation of the economical advantage of moving materials in this way. Use of the trucks has been furthered by the development of automatic battery charging equipment which makes care of the batteries a simple matter.

New types of alternators, motor-generator sets and dynamotors have been produced for meeting the requirements of cab signaling, train communication and brake operation. When the dynamotors are applied to brake control, the braking circuit is independent of any grounds which may occur on the primary source.

Two means of preventing corrosion of electrical equipment have appeared. One is a plastic tape which may be used to protect metal conduit laid underground. The other is a stainless steel paint, which is said to be particularly effective for transformers and similar equipment which may be exposed to a strongly alkaline atmosphere.

Progress in improving variable-speed a.c. motors has continued to a point at which the need for d.c. power for operation of cranes may disappear altogether. Lifting speeds have been increased, lowering speeds are constant and inching control meets practically all railroad crane specifications.



Dollar outlay for upkeep of tracks and structures in 1951 went up substantially in face of a further lag in tie insertions and only a small gain in rail renewals

Maintenance Expenditures Hit New High

By MERWIN H. DICK
Engineering Editor

Partly because of inflationary factors, major indices of maintenance-of-way activity for 1951 present a glaring anomaly. Whereas the dollar expenditures for maintenance of way and structures went up substantially to an all-time new high, there was only a slight increase in the amount of new rail laid for replacement purposes, and crosstie renewals went down to an all-time new low. It would seem, therefore, that the increase in the dollar expenditures largely reflects inflated wage rates and prices of materials. Though rail and tie renewals showed only a slight change, it is not unlikely that there were substantial increases in other types of work, such as ballasting, maintenance grading, roadbed stabilization and the use of weed-killing chemicals.

Based on actual figures for the first nine months of the year it is estimated that the Class I railroads of the country spent $1,508 million on the maintenance of their tracks and structures in 1951. This represented an increase of $220 million, or 17.1 per cent, as compared with 1950. One of the accompanying charts illustrates graphically the substantial nature of the increased expenditures in 1951, and affords an interesting contrast between the present high level of such expenditures and the much lower level that prevailed during the "boom" years of the twenties.

Maintenance-of-way and structures expenditures in 1951 showed no particular month-by-month trend relative to those of the previous year. In other words, they started out the year at a substantially higher level than in 1950 and each succeeding month for which figures are available showed about the same percentage gain over the corresponding month of the previous year. There is every reason to believe that the same trend prevailed during the closing months of the year.

Maintenance Ratio Also Up

In keeping with the sharply upward trend of maintenance-of-way expenditures in 1951 there was a significant increase in the maintenance ratio (maintenance expenses expressed as a percentage of operating revenues) of the Class I roads. Specifically, for the first nine months of the year this ratio was 14.6 per cent. This represents an increase of a full percentage point over the maintenance ratio for the full year of 1950. The maintenance ratio for the first nine months of 1951 has been exceeded in only three previous years—in 1945, when it was 15.8 per cent, in 1946, when it was 15.1 per cent, and in 1949, when it was 14.9 per cent.

What is happening with respect to the maintenance ratio is that a combination of factors, including inflated wages and prices, and the rules now in effect regarding depreciation accounting, are conspiring to hold this ratio at a much higher level than prevailed before the beginning of World War II. The effect that these factors have had on the ratio is shown by the fact that, for the 10 years ending with 1944, the average ratio was 11.7. It might be said that a race is occurring between inflated

THE OUTLOOK FOR 1952

Providing that circumstances permit the railroads to carry out their projected programs of rail and tie renewals in 1952, both these categories of maintenance activity will be up substantially compared with 1951. On the basis of figures submitted to Railway Age by most of the Class I railroads it is estimated that these roads as a whole are planning to lay 1,611,700 net tons of new rail in 1952. This would represent an increase of 228,500 tons, or 16.5 per cent, compared with last year. Similarly, it is estimated that these same roads plan to insert 31,943,000 crossties this year, an increase of 3,108,000 ties, or 10.8 per cent, compared with the estimated figure for 1951.

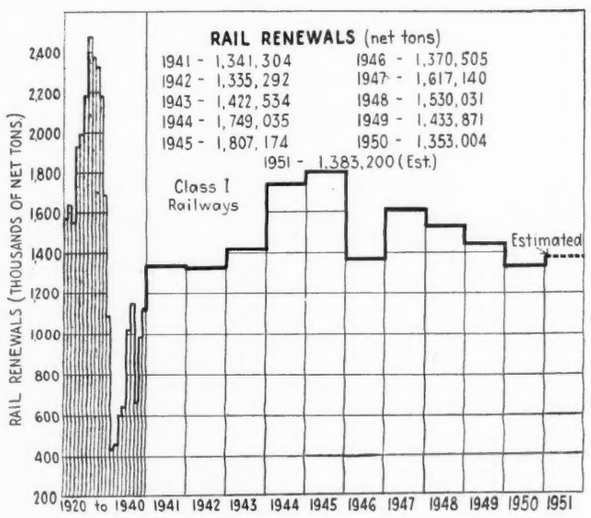
costs on the one hand and, on the other, the efforts of maintenance men to increase the efficiency of their forces by mechanization and other means. The present level of the maintenance ratio is an indication of the relative standing of the contestants in this race at the present time.

As already indicated, rail and tie renewals in 1951 showed conflicting trends, rail renewals being up and crosstie insertions being down. One of the accompanying charts shows the trend of rail renewals on the Class I railroads since 1920 and includes actual figures showing the net tons of new rail laid in replacement from 1941 to 1951, inclusive. The figure for the latter year (1,383,200 net tons) is an estimate based on figures supplied to *Railway Age* by nearly all of the Class I railroads. It represents an increase of approximately 33,200 net tons, or 2.4 per cent, as compared with 1950.

The estimated rail renewals for 1951 were considerably less than had been expected. Based on figures supplied to this magazine by most of the Class I railroads late in 1950, regarding their projected new-rail programs for 1951, it was estimated that these roads as a whole planned to lay 1,580,000 net tons of new rail in that year. That the actual figures fell considerably below expectations is probably due to a combination of circumstances.

Undoubtedly some roads were unable to obtain their full requirements from the mills; in other instances deliveries of new steel came too late to permit the rail to be laid before the end of the year. On still other lines a shortage of labor may have been a factor in slowing down rail-laying programs, although this situation was far from being general.

Tie renewals likewise took an unexpected turn—for the worse—in 1951. Another of the charts shows the trend of tie renewals since 1920, and includes actual figures showing the number of ties inserted each year during the period from 1941 to 1951, inclusive. As with the rail renewals, the figure for 1951 is an estimate based on data submitted by most of the Class I railroads. For 1951 the estimated renewals amounted to 28,835,000 ties, a decrease of 1,658,600 ties, or 5.5 per cent, compared with 1950.

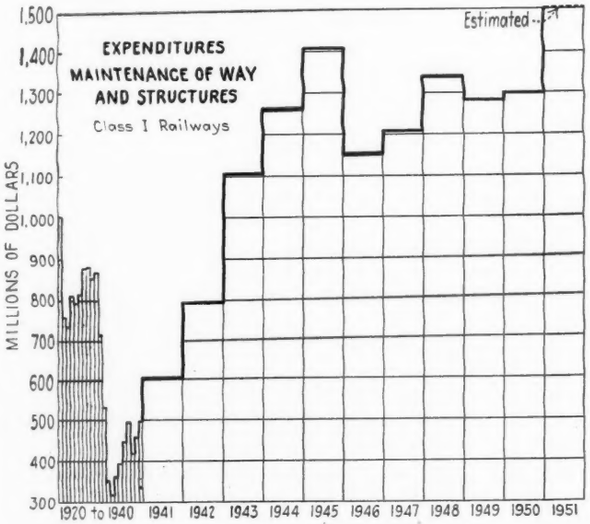


Rail renewals seem to have become stabilized at a fairly uniform level in recent years

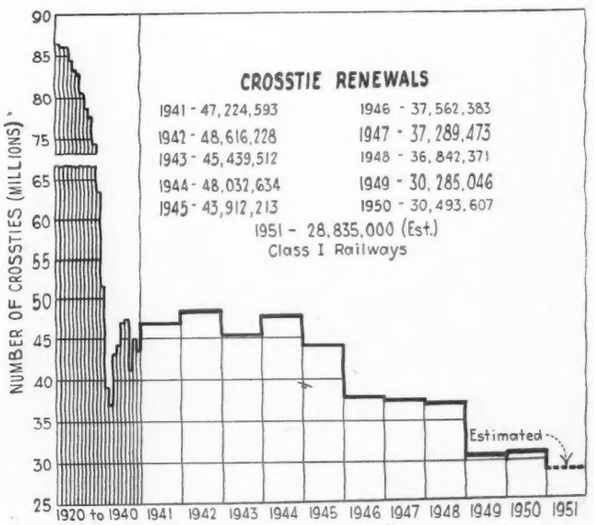
Why of Slump in Tie Renewals

The figure giving the estimated crosstie renewals for 1951 is significant for several reasons. In the first place the decline from 1950 occurred in the face of expectations that at least a moderate increase would take place. Secondly, it means that tie renewals reached an all-time new low for the fourth consecutive year.

Obviously, the lengthening span of tie life due to the methods of preservation being used ever more widely is a factor in keeping tie renewals at a consistently low level. However, in view of the further slump in 1951, it is not improbable that for one reason or another—inadequate supplies, labor shortages, *etc.*—at least some roads were not able to complete projected tie-renewal programs in that year. The fact is that, as with rail, the railroads as a whole fell far short of their original collective goal insofar as tie renewals for 1951 are concerned. It is logical to assume that there was a further accumulation of deferred maintenance in the overall tie condition which will have to be made up in future years.



Inflationary factors are continuing to force maintenance-of-way and -structures expenditures to even higher levels



The further drop in tie renewals in 1951 occurred in the face of general expectations of at least a slight increase

A number of roads have revamped maintenance organizations to minimize the role of section gangs, creating "district" gangs to take over heavier track maintenance. This view shows a district gang on the Frisco laying rail

During 1951 the New York Central put into service a number of cars of a special design for transporting and distributing new crossties. It is reported that use of these cars is resulting in substantial savings in the cost of distributing ties

To assure itself of an adequate supply of maintenance labor at its Kirk Yard, Gary, Ind., the Elgin, Joliet & Eastern has built a modern permanent labor camp there, housing 130 men. This view shows a portion of the spacious dining room

In the "box" at the beginning of this article estimates are given of the rail and tie-renewal programs of the Class I railroads as a whole for 1952. The figures indicate that substantial increases in both these categories of work are expected. It should be emphasized, however, that these figures are merely representative of what the railroads plan to do at this time. Thus, they should be considered with "a grain of salt" in the knowledge that they could be unfavorably affected by any one of several untoward developments, such as a prolonged steel strike, or an unexpected slump in railroad earnings.

A Year of Steady Progress

The year 1951 was one of steady progress in the development of practices and equipment* for increasing the efficiency and effectiveness of the railroads' maintenance-of-way and structures forces. One of the most notable developments was a continuation of the trend toward the development of a maintenance organization that will permit more effective use of manpower. In a general way the trend seems to be in the direction of minimizing the role of the traditional section gang and of placing greater dependence, for doing the heavier work at least, on larger gangs capable of using work equipment with maximum efficiency. One railroad at least has done away with section gangs entirely on many miles of its lines.

During 1951 there were no further changes in the working hours of maintenance-of-way- and -structures employees, although, along with other non-operating personnel, these employees received several wage increases during the year, amounting to a total of 19½ cents per hour. Except for isolated instances, particularly in the vicinity of some large industrial areas, the supply of maintenance labor was generally adequate in 1951. In 1952 it is expected that there will be some "tightening up" of the supply of unskilled labor, although most authorities on this matter do not expect a serious shortage to develop. The fact that labor will be somewhat more difficult to obtain in 1952 is indicated by the fact that the amount of seasonal unemployment in the closing months of 1951 was considerably below normal.

Indicative of the railroads' increasing efforts to develop more economical engineering standards and maintenance practices is the fact that the Association of American Railroads has approved a further increase in the funds to be used for research in this field. At a meeting of the member roads of the A.A.R. in Chicago in November 1951 a research budget of $381,400 was approved for the engineering division for 1952. This is an increase of $26,630 over the appropriation for 1951. Of special significance is the fact that the amount appropriated for research into vegetation control by chemicals is $12,500, an increase of $7,000 as compared with 1951.

Another development that is certain to have a favorable effect on the railroads' future research work relative to engineering and maintenance matters is the approval of the formation of a coordinating committee on research, to be composed of three representatives from the Engineering Division of the A.A.R., three from the Mechanical Division, and three others. The purpose of this committee will be to integrate the research activities of the several divisions of the A.A.R., and to bring expert opinion to bear on the matter of selecting and recommending new research projects, keeping in mind the overall railroad situation.

*Since developments in work equipment are the subject of a separate article in this issue they are not covered in this discussion.

Equipment Prices Reported in 1951

The accompanying tables list unit prices of typical locomotives (one or more units) and freight-train cars purchased in this country by Class I railroads in 1951. As in previous years, the data was compiled from Interstate Commerce Commission reports authorizing railroads to issue and sell equipment trust certificates and notes, proceeds from the sale of which were used to acquire rolling stock.

Seemingly large variations in the prices of similar types of equipment are caused largely by differences in the kind and number of specialties specified by the purchaser.

LOCOMOTIVE PRICES

No. Bought	Type	Service	Horsepower	Price
9	Diesel-Elec.	Sw.	1,200	$103,705
13	Diesel-Elec.	Rd.-Sw.	1,600	192,596
6	Diesel-Elec.	Rd.-Sw.	1,500	176,144
4	Diesel-Elec.	Rd.-Sw.	1,600	171,199
2	Diesel-Elec.	Rd.-Sw.	1,500	189,040
4	Diesel-Elec.	Rd.-Sw.	1,600	172,064
2	Diesel-Elec.	Pass.	4,500	466,182
8	Diesel-Elec.	Pass.	4,500	467,736
11	Diesel-Elec.	Rd.-Sw.	1,500	156,248
9	Diesel-Elec.	Sw.	1,200	103,130
2	Diesel-Elec.	Pass.	4,500	467,736
2	Diesel-Elec.	Pass.	2,250	233,868
34	Diesel-Elec.	Rd.-Sw.	1,500	156,248
8	Diesel-Elec.	Sw.	1,200	103,130
4	Diesel-Elec.	Sw.	1,200	105,570
4	Diesel-Elec.	Pass.	2,250	244,035
26	Diesel-Elec.	Rd.-Sw.	1,500	148,475
4	Diesel-Elec.	Rd.-Sw.	1,500	159,300
5	Diesel-Elec.	Rd.-Sw.	1,600	148,964
2	Diesel-Elec.	Rd.-Sw.	1,600	177,710
4	Diesel-Elec.	Sw.	1,200	103,425
7	Diesel-Elec.	Sw.	1,000	102,970
6	Diesel-Elec.	Sw.	660	81,430
5	Diesel-Elec.	Transfer	2,400	198,384
6	Diesel-Elec.	Frt.	4,500	470,264
6	Diesel-Elec.	Pass.	4,500	544,839
3	Diesel-Elec.	Sw.	1,200	106,138
15	Diesel-Elec.	Sw.	1,000	105,257
7	Diesel-Elec.	Sw.	1,200	104,634
10	Diesel-Elec.	Sw.	1,200	104,829
5	Diesel-Elec.	Rd.-Sw.	1,600	146,863
15	Diesel-Elec.	Suburban	1,600	175,470
10	Diesel-Elec.	Gen. Purpose	1,500	148,156
6	Diesel-Elec.	Rd.-Sw.	1,500	148,992
4	Diesel-Elec.	Sw.	800	98,660
5*	Diesel-Elec.	Rd.-Sw.	1,600	160,439
1	Diesel-Elec.	Frt.	4,500	497,514
14	Diesel-Elec.	Pass.	2,250	221,813
2	Diesel-Elec.	Pass.	1,250	218,460
8	Diesel-Elec.	Rd.-Sw.	1,600	150,254
1	Diesel-Elec.	Rd.-Sw.	1,600	150,592
5	Diesel-Elec.	Rd.-Sw.	1,600	140,822
4	Diesel-Elec.	Rd.-Sw.	1,500	148,385
1	Diesel-Elec.	Sw.	1,200	104,030
1	Diesel-Elec.	Sw.	1,000	100,290
1	Diesel-Elec.	Frt.	6,000	660,000
6	Diesel-Elec.	Rd.-Sw.	1,500	150,000
4	Diesel-Elec.	Rd.-Sw.	1,600	150,000
4	Diesel-Elec.	Rd.-Sw.	1,600	155,000
6	Diesel-Elec.	Sw.	1,200	105,000
1	Diesel-Elec.	Sw.	1,000	105,000
27	Diesel-Elec.	Rd.-Sw.	1,500	152,000
3	Diesel-Elec.	Rd.-Sw.	1,500	161,000
7	Diesel-Elec.	Sw.	1,200	104,500
2	Diesel-Elec.	Sw.	800	95,000
14	Diesel-Elec.	"A" Frt.	1,500	173,100
7	Diesel-Elec.	"B" Frt.	1,500	158,000
2	Diesel-Elec.	"A" Pass.	1,500	182,800
2	Diesel-Elec.	"B" Pass.	1,500	166,000
1**	Diesel-Elec.	"A" Frt.	1,500	178,500
1†	Diesel-Elec.	"A" Frt.	1,500	166,000
15	Diesel-Elec.	Rd. Sw.	1,500	184,850
1	Diesel-Elec.	"B" Frt.	1,500	157,400
4	Diesel-Elec.	Pass.	2,225	236,628
1	Diesel-Elec.	Rd.-Sw.	1,500	159,130
35	Diesel-Elec.	Sw.	1,200	102,890
2	Diesel-Elec.	Sw.	600	80,290
10	Diesel-Elec.	Rd.-Sw.	1,600	146,135
8	Diesel-Elec.	Sw.	1,000	101,137
21	Diesel-Elec.	"A" Frt.	1,600	163,228
3	Diesel-Elec.	"B" Frt.	1,600	149,638
5	Diesel-Elec.	Rd.-Sw.	1,600	145,593
8	Diesel-Elec.	Rd.-Sw.	1,500	145,289
5	Diesel-Elec.	Frt.	4,800	452,240
2	Diesel-Elec.	Frt.	4,500	457,808
2	Diesel-Elec.	"A" Frt.	3,200	309,722
2	Diesel-Elec.	"A" Frt.	3,000	313,810
3	Diesel-Elec.	"A" Pass.	4,500	437,422
3	Diesel-Elec.	Gen. Purpose	1,500	156,925
12	Diesel-Elec.	Rd.-Sw.	1,500	146,728
4	Diesel-Elec.	Sw.	1,200	98,633
5	Diesel-Elec.	Sw.	1,200	98,620
6	Diesel-Elec.	"A" Rd.	1,500	172,627
10	Diesel-Elec.	Gen. Purpose	1,500	149,663
5	Diesel-Elec.	Sw.	1,200	97,806
18	Diesel-Elec.	Sw.	1,200	101,610
2	Diesel-Elec.	Sw.	1,200	98,405
2	Diesel-Elec.	"A" Frt.	1,600	170,000
2	Diesel-Elec.	"B" Frt.	1,600	151,500
34	Diesel-Elec.	"A" Frt.	1,500	169,135
10	Diesel-Elec.	"A" Frt.	1,600	174,170
4	Diesel-Elec.	"B" Frt.	1,600	156,845
6	Diesel-Elec.	"A" Pass.	2,400	235,800
2	Diesel-Elec.	"A" Pass.	2,400	236,520
3	Diesel-Elec.	Rd.-Sw.	1,500	150,270
6	Diesel-Elec.	Frt.	6,000	660,164
4	Diesel-Elec.	Sw.	1,000	101,110
2	Diesel-Elec.	Frt.	6,000	661,794
1	Diesel-Elec.	"B" Frt.	1,500	157,661
2	Diesel-Elec.	"A" Pass.	1,500	177,251
4	Diesel-Elec.	Rd.-Sw.	1,500	148,295
3	Diesel-Elec.	Sw.	1,200	102,632
1	Diesel-Elec.	"B" Pass.	1,500	160,246

*With multiple unit control.
**With steam generator.
†Without steam generator.

FREIGHT-TRAIN CAR PRICES

No. of Cars	Type	Construction	Capacity	Unit Price
2,000	Hopper	Steel	55-ton	$4,850
1,200	Hopper	Steel	70-ton	5,364
50	Hopper	Steel	70-ton	5,192
340	Hopper	Steel	70-ton	5,589
75	Box	Steel	50-ton	5,163
655	Hopper	Steel	70-ton	5,193
20	Box	Steel Sheathed Underframe	50-ton	5,423
500	Box	Steel Sheathed Underframe	50-ton	5,243
350	Box	Steel	50-ton	5,423
100	Box	Steel	50-ton	6,275
100	Gondola	Composite	70-ton	6,522
600	Refrig.	Steel	50-ton	6,500
250	Cov. Hopper	Steel	70-ton	6,300
30	Gondola	Steel	70-ton	6,425
50	Caboose*	Steel	70-ton	9,830
520	Box	Steel Sheathed Wood-lined	50-ton	5,400
900	Box	Steel Sheathed Wood-lined	50-ton	5,357
25	Cov. Hopper	Steel	70-ton	6,839
500	Triple Hopper	Steel	70-ton	5,228
500	Gondola	Steel	70-ton	6,800
1,000	Box	Steel Frame	50-ton	5,900
100	Cov. Hopper	Steel	70-ton	6,875
300	Hopper	Steel	50-ton	4,155
1,000	Gondola	Steel	70-ton	6,588
143	Flat	Steel	70-ton	6,721
150	Cov. Hopper (1,958 cu. ft.)	Steel	70-ton	6,890
50	Cov. Hopper (3,050 cu. ft.)	Steel	70-ton	9,033
100	Cov. Hopper	Steel	70-ton	5,820
500	Box	Steel Sheathed	50-ton	4,900
250	Gondola	Steel	70-ton	5,100
200	Ore	Steel	70-ton	4,900
500	Box	Steel	55-ton	5,300
500	Gondola	Steel Sheathed	70-ton	6,130
100	Wood Rack	Steel	.....	7,415
200	Cov. Hopper	Steel	70-ton	6,247
500	Box	Composite	50-ton	5,077
100	Cov. Hopper	Steel	70-ton	6,788
200	Gondola	Steel	50-ton	4,653
200	Gondola	Steel	50-ton	4,477
25	Caboose	Steel	30-ton	10,639
300	Gondola	Steel	50-ton	5,016
300	Hopper	Steel	70-ton	5,652
25	Caboose	.....	.....	12,000
500	Box	Steel	50-ton	5,397
528	Gondola	Composite	50-ton	4,411
380	Gondola	Composite	50-ton	4,470
100	Flat	Cast Steel Underframe	50-ton	7,945
150	Gondola	Steel	70-ton	6,988
100	Cov. Hopper	Steel	70-ton	8,449
460	Gondola	Steel	70-ton	6,005
100	Cov. Hopper	Steel	70-ton	6,824
100	Box	Steel Sheathed	50-ton	6,877
40	Flat	Steel	70-ton	6,439

*Equipped with radio communication system.

A hopper car for the Atchison, Topeka & Santa Fe

96,190 Freight-Train Cars Ordered

By C. B. PECK
Mechanical Editor
and FRED C. MILES
Associate Editor

Orders for 96,190 freight-train cars for domestic use were placed in the United States in 1951, according to the American Railway Car Institute and the Association of American Railroads. In addition 2,805 such cars were ordered for export. Of the total number of freight-train cars ordered in this country last year, substantially all are listed by purchaser in the accompanying detailed tabulation, which was compiled by *Railway Age* from data submitted by purchasers and checked and amplified with statistics received from car builders through the cooperation and assistance of the A.R.C.I. Two other tables summarize and analyze deliveries and orders of freight-train cars from 1920 through 1951.

Compared with the 43,991 freight cars delivered for domestic service in the United States during 1950, the 95,943 turned out by car builders and railroad and private car line shops during 1951 represents a great improvement. Indeed, December 1950 marked the turning point from a declining Class I ownership to an increasing ownership which has been maintained throughout the year with the exception of one month. For 1951 as a whole, the increase in Class I freight-car ownership has been approximately 31,000 cars of all types, of which about two-thirds are box cars. The year started off with a backlog of unfilled freight-car orders of some 124,500, which had increased by April 1 to about 158,600. Although since then the number has declined, it was still nearly 4,700 greater on December 1 than at the beginning of the year.

The year has been characterized by a valiant effort on the part of the Defense Transport Administration to build up monthly output of new freight cars for domestic service to 10,000. This output was actually exceeded in one month—October—and fairly closely approached in three other months—May, June and November—but the average for the year was about 7,950 cars per month. Had the pressure not been kept on the National Production Administration by Mr. Knudson and the Transport Administration, the program would undoubtedly have

Freight-Train Cars Delivered—Domestic and Export 1920-1951

Year	Car-builders	Railroad and Private Line Shops	Total	U. S. Export
1951	67,744	28,199	95,943	50
1950	24,443	19,548	43,991	218
1949	62,955	29,607	92,562	2,610
1948	83,196	29,444	112,640	2,245
1947	52,990	15,532	68,522	27,721
1946	31,885	10,070	41,955	18,020
1945	31,011	12,853	43,864	10,658
1944	27,953	15,050	43,003	38,759
1943	24,616	7,220	31,836	43,117
1942	47,429	15,444	62,873	8,529
1941	63,396	17,227	80,623	2,386
1940	45,316	17,025	62,341	1,734
1939	19,491	5,641	25,132	381
1938	9,990	6,480	16,470	611
1937	61,929	15,569	77,498	1,321
1936	30,969	15,643	46,612	523
1935	5,965	1,550	7,515	1,263
1934	16,211	8,965	25,176	91
1933	863	1,300	2,163	39
1932	482	2,770	3,252	84
1931	7,497	5,706	13,203	410
1930	65,081	9,839	74,920	1,731
1929	68,712	12,878	81,590	3,448
1928	38,375	7,685	46,060	1,453
1927	54,830	8,540	63,370	467
1926	78,898	9,964	88,862	2,445
1925	94,707	11,028	105,735	3,077
1924	104,093	9,618	113,711	1,584
1923	146,247	29,501	175,748	1,966
1922	63,866	2,423	66,289	1,399
1921	39,259	1,033	40,292	5,351
1920	46,784	14,171	60,955	14,602

Source: American Railway Car Institute.

One of a lot of 100 roller bearing-equipped covered hopper cars delivered to the Great Northern in 1951

been subjected to much greater erosion than actually took place.

The freight-car supply was not adequate at any time during 1951. By comparison with 1950 the available supply of serviceable cars was markedly improved, however, but month by month, until September, this was predominately the result of reduction in the number of bad-order cars rather than of the increase in car ownership. In the latter months of the year the increase in ownership became greater than the decrease in bad orders.

When the effect of the increasing car supply on car shortages is examined, however, there is little to inspire optimism as to the adequacy of the car supply during 1952. Daily box-car shortages were high during the latter half of 1950, ranging from 10,500 to 22,000 from July to November, inclusive. In 1951 the largest shortages were reported during January to April, inclusive, ranging from just under 10,000 to 27,000, while for the rest of the year there was no month in which there were not reports of over 4,000, and in three months the maximum was well over 6,000. In other words, embarrassing shortages were continuous throughout 1951, whereas the early months of 1950 were substantially free from significant shortages.

Considering gondola and hopper cars together, the situation is much the same. Shortages were high during the first third of 1951 as compared with minor shortages in 1950, and there were substantial shortages throughout the remainder of 1951, although somewhat lower than those during August through November 1950.

Already announcement has been made that steel available for freight-car construction during the first quarter of 1952 will permit the building of approximately 21,000 cars, an average of 7,000 per month. If the remaining quarters of 1952 fare no better, this will

Number and Classification of Freight-Train Cars Ordered for Domestic Use (Carbuilder and Railroad Shops)

Year	Box	Flat	Stock	Gondola	Hopper	Tank	Refrig.	Others	Non-Rev.	Total
1951	29,195	2,339	1,000	17,377	33,758	7,336	4,080	607	498	96,190
1950	69,661	3987	500	33,094	30,448	8,651	7,505	1,639	282	155,767
1949	2,852	60	0	244	1,131	834	1,050	5	47	6,223
1948	17,140	4,139	500	18,498	40,193	4,229	6,510	881	685	92,775
1947	38,490	636	150	14,877	52,036	6,851	6,200	586	337	120,163
1946	30,500	1,173	0	4,577	15,511	4,825	10,253	153	201	67,193
1945	15,440	1,241	0	5,727	12,960	915	1,085	174	320	37,862
1944	31,066	823	300	6,758	12,674	972	1,465	371	52	54,481
1943	10,027	2,212	0	5,312	18,400	556	50	153	320	37,030
1942	2,351	2,300	0	9,711	10,197	2,716	0	1,285	0	28,560
1941	55,939	3,459	400	15,814	23,213	2,800	2,370	1,614	1,614	106,897
1940	35,530	885	350	9,654	14,446	1,671	785	1,965	542	65,828
1939	20,140	976	100	6,419	21,923	2,373	675	1,127	182	53,915
1938	7,912	931	568	4,279	2,017	230	0	299	134	16,370
1937	20,564	1,365	500	10,120	12,817	692	1,770	287	1,827	49,942
1936	21,866	1,224	453	8,782	22,271	5,745	7,495	100	1,812	69,748
1935	8,925	75	50	2,755	5,970	313	600	32	29	18,749
1934	9,831	1,656	0	2,077	10,460	341	198	0	3	24,566
1933	619	50	0	4	33	269	615	129	1	1,720
1932	1,290	11	0	270	150	52	137	9	32	1,951
1931	2,100	400	750	1,072	3,113	261	2,314	28	159	10,197
1930	17,012	2,046	950	9,900	4,036	2,920	5,689	384	468	43,405
1929	57,139	3,888	2,950	18,289	16,117	4,446	3,583	789	2,940	110,141
1928	21,148	3,709	906	6,495	6,087	2,585	5,568	280	1,376	48,154
1927	28,975	2,694	1,668	13,735	11,835	5,930	4,432	1,067	2,655	72,991
1926	18,277	1,819	2,556	8,366	11,483	4,096	10,109	2,188	2,676	61,570
1925	40,668	2,720	2,749	21,869	6,448	4,701	5,308	802	1,320	86,585
1924	68,282	4,021	6,504	23,603	21,350	3,474	14,347	2,274	1,761	145,616
1923	35,286	2,904	714	16,318	23,883	6,003	6,207	2,448	1,846	95,609
1922	68,767	2,800	4,236	31,742	36,223	5,795	22,587	4,385	1,675	178,210
1921	5,130	292	630	5,427	4,708	327	4,905	1,048	298	22,765
1920	14,470	1,417	3,435	10,080	23,142	15,631	8,785	1,724	1,456	80,140

Source: American Railway Car Institute.

probably produce a net increase in Class I ownership over the year of less than 20,000 cars.

There is little reason to anticipate a substantial increase in serviceable cars from a further reduction in the number of cars under or awaiting repairs. Throughout the past year the percentage of bad-order cars has varied but little and stood at 5 per cent as of November 1.

The improvement in turn-around time during 1951 as compared with 1950 also indicates that this factor has been pretty well exploited as a source of additional effective car supply.

A tough year seems to be in prospect for the Car Service Division in its attempt to serve all shippers with justice and to keep them all reasonably happy in the process.

Railroad Orders—For Service in the United States

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Ann Arbor	10	Caboose	.....	28	5	Steel	.....	January	December	R. R. Shops
Atchison, Topeka & Santa Fe	1,450	Box	100,000	40	6	Steel	.....	Feb.-Mar.	1952	R. R. Shops
	300	Box	100,000	50	6	Steel	.....	March	1952	R. R. Shops
	250	Box	100,000	50	6	Steel	.....	March	1952	R. R. Shops
	220	Refrig.	80,000	40	6	Steel	.....	February	1952	R. R. Shops
	500	Hopper	140,000	52	6	Steel	.....	January	1952	R. R. Shops
	500	Hopper	140,000	52	6	Steel	.....	March	1952-53	R. R. Shops
	150	Sulphur	140,000	40	0	Steel	.....	June	1952	R. R. Shops
	30	Refrig.	100,000	50	0	Steel	.....	February	1952	R. R. Shops
	250	Ballast	140,000	40	8	Steel	63,500	March	1952	Amer. Car & Fdy.
	200	Tank	16,000g.	..	..	Steel	.....	March	1952	General American
Atlanta & West Point	90	Box	100,000	40	6	Steel	46,000	January	Aug. '52	Pullman-Standard.
Atlantic Coast Line	150	Pulpwood	100,000	38	3	Steel	45,000	.....	1951	R. R. Shops
	2	Box	100,000	50	6	Plywood	44,200	May	1952	Pressed Steel Car
	6	Air Dump	100,000	29	6	Steel	58,000	February	1952	Magor Car
Baltimore & Ohio	1,000	Box	100,000	40	6	Steel	47,400	August	Apr. '52	R. R. Shops
	1	Flat	140,000	52	6	Steel	55,100	June	June '52	R. R. Shops
	500	Cov. Hopper	140,000	28	1	Steel	49,500	June	Sept. '52	Greenville Steel
Bangor & Aroostook	500	Refrig.	80,000	40	0	Steel	54,500	February	Mar. '52	Pac. Car & Fdy.
Bessemer & Lake Erie	500	Ore	140,000	20	9	Steel	45,000	September	Apr.-July '52	Greenville Steel Car
Buffalo Creek	500	Box	100,000	40	6	Steel	49,999	January	May '52	Amer. Car & Fdy.
	500	Box	100,000	40	6	Steel	49,000	January	May '52	Pullman-Standard
Cambria & Indiana	400	Hopper	100,000	33	0	Steel	38,700	February	1952	Bethlehem Steel
Central of New Jersey	500	Box	100,000	40	6	Steel Frame	44,800	February	June '52	Amer. Car & Fdy.
Central of Pennsylvania	3	Box	100,000	40	6	Steel Frame	44,800	February	June '52	Amer. Car & Fdy.
Chesapeake & Ohio	2,500	Triple Hopper	140,000	40	6	Steel	52,500	March	1952	Amer. Car & Fdy.
	1,000	Box	100,000	40	6	Steel Frame	45,000	March	1952	Pullman-Standard
	400	Cov. Hopper	140,000	29	3	Steel	52,000	March	1952	Pullman-Standard
	250	Flat	140,000	53	6	Steel Underframe	65,000	March	Feb. '52	Greenville Steel Car
	750	Box	100,000	50	6	Steel Frame	62,000	March	Apr. '52	General American
	200	Gondola	140,000	52	6	Steel	60,000	March	Apr. '52	General American
	9	Air Dump	100,000	33	0	Steel	63,000	April	December	Differential SteelCar
Chicago & Eastern Illinois	300	Box	100,000	40	6	Steel	.....	January	Jan. '52	R. R. Shops
	500	Box	100,000	40	6	Steel	.....	January	Apr. '52	Amer. Car & Fdy.
	700	Hopper	100,000	35	0	Steel	.....	January	Mar.-Apr. '52	Pressed Steel Car
	300	Hopper	140,000	42	8	Steel	.....	January	1951-52	Pressed Steel Car
	25	Cov. Hopper	140,000	29	3	Steel	.....	September	Mar. '52	R. R. Shops
	25	Flat	140,000	53	6	Steel	.....	September	Mar. '52	R. R. Shops
	500	Triple Hopper	140,000	42	8	Steel	47,000	February	1952	Pressed Steel Car
	500	Hopper	100,000	35	0	Steel	42,000	February	1952	Pressed Steel Car
Chicago & Illinois Midland	150	Gondola	140,000	46	6	Steel	53,000	January	1952	Pullman-Standard
Chicago & Illinois Western	10	Cov. Hopper	140,000	29	3	Steel	52,700	August	Nov. '52	Pullman-Standard
Chicago & North Western	350	Cov. Hopper	140,000	29	3	Steel	50,200	1951	1952	Pullman-Standard
Chicago, Rock Island & Pacific	200	Cov. Hopper	140,000	29	3	Steel	51,000	October	Oct. '52	Pullman-Standard
Chicago, Indianapolis & Louisville	1	Caboose	.....	..	.	Steel	50,600	1951	Jan. '52	Thrall Car
	1	Gondola	140,000	53	6	Steel Underframe	64,000	June	.....	Thrall Car
	250	Box	100,000	40	6	.....	45,100	June	Sept. '52	Pullman-Standard
	1	Hopper	140,000	40	8	Steel	47,100	October	Sept. '52	General American
	1	Box	100,000	40	6	.....	46,000	October	Sept. '52	General American
	1	Box	100,000	40	6	.....	45,100	September	Sept. '52	Pullman-Standard
Clinchfield	500	Hopper	100,000	35	0	Steel	41,000	February	May-June '52	Pullman-Standard
Delaware, Lackawanna & Western	500	Hopper	100,000	34	8	Steel	39,000	March	Sept. '52	Amer. Car & Fdy.
	100	Cov. Hopper	140,000	26	4	Steel	54,800	June	Oct. '52	Amer. Car & Fdy.
Delaware & Hudson	500*	Box	100,000	40	6	Steel	43,600	February	July-Aug. '52	Pullman-Standard
	500	Hopper	100,000	33	0	Steel	38,800	April	1952	Bethlehem Steel
Denver & Rio Grande Western	1,000	Gondola	140,000	46	0	Steel	56,500	May	1952	General American
	25	Cov. Hopper	140,000	29	3	Steel	52,000	July	1952	Pullman-Standard
	500	Gondola	140,000	46	0	Steel	56,500	December	1952	General American
Detroit & Mackinac	100	Box	100,000	40	6	Steel	44,000	January	1951	General American
Detroit, Toledo & Ironton	100	Cov. Hopper	140,000	29	3	Steel	52,700	July	1952	Amer. Car & Fdy.
Duluth, Missabe & Iron Range	250	Hopper	140,000	34	2	Steel	46,500	September	1952	Pressed Steel Car
	1,500	Ore	140,000	19	1	Steel	.....	January	1951-52	Pullman-Standard
	20	Caboose	60,000	30	0	Steel	48,000	December	1952	Int'l. Ry. Car
Erie	2	Dep. Flat	336,000	66	11	Steel	161,000	March	October	R. R. Shops
	500	Gondola	140,000	52	6	Steel	61,700	January	1st. qtr. '52	Greenville Steel Car
	500	Box	100,000	40	6	Steel	46,000	January	Feb.-June '52	R. R. Shops
	50	Caboose	.....	32	4	Steel	60,000	August	4th qtr. '52	R. R. Shops
Florida East Coast	75	Cov. Hopper	140,000	29	3	Steel	53,500	March	1952	Pullman-Standard
Georgia	100	Hopper	100,000	36	0	Steel	41,000	January	1952	Pullman-Standard
	110	Box	100,000	40	6	Steel	46,000	January	1952	Pullman-Standard
Grand Trunk Western	250	Box	100,000	40	6	Steel	45,500	April	2nd qtr, '52	Amer. Car & Fdy.
	350	Box	100,000	40	6	Steel	45,500	September	3rd qtr. '52	Amer. Car & Fdy.
	250	Box	100,000	50	6	Steel	50,100	April	2nd qtr. '52	General American
	250	Triple Hopper	140,000	40	8	Steel	48,600	September	3rd qtr. '52	Amer. Car & Fdy.
	250	Triple Hopper	140,000	40	8	Steel	48,600	April	3rd qtr. '52	Amer. Car & Fdy.
	125	Cov. Hopper	140,000	29	3	Steel	52,000	April	2nd qtr. '52	Amer. Car & Fdy.
	300	Gondola	140,000	50	6	Steel	54,600	April	1st qtr. '52	General American
Great Northern	950	Box	100,000	40	6	Steel	41,000	May	Sept. '52	R. R. Shops
	700	Ore	150,000	19	11	Steel	43,700	May	Mar. '52	Amer. Car & Fdy.
	300	Ballast	140,000	40	8	Steel	53,900	May	Mar. '52	Amer. Car & Fdy.
	15	Caboose	.....	30	0	Steel	56,000	May	October	R. R. Shops
	50	Exp. Refrig.	100,000	50	0	Steel Underframe	80,000	August	1952	Pac. Car & Fdy.
	3	Flat	190,000	..	..	.....	.....	1951	.....	R. R. Shops

*Leased from the Equitable Life Assurance Society.

This string of box cars was produced for service on the Pennsylvania

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Gulf Coast Lines	80	Rack	100,000	38	0	Steel	43,000	April	1951-52	R. R. Shops
Gulf, Mobile & Ohio	250	Ore	190,000	41	8	Steel	.....	August	1952	Pullman-Standard
Illinois Central	100	Cov. Hopper	140,000	29	3	Steel	52,700	August	1952	Pullman-Standard
	1,500	Gondola	100,000	41	6	Steel	51,000	November	1952	R. R. Shops
Illinois Terminal	150	Hopper	140,000	..	..	Steel	50,000	1951	Mar. '52	General American
	25	Gondola	140,000	65	6	Steel	57,000	1951	June '52	Greenville Steel Car
	100	Gondola	100,000	41	6	Steel	42,000	1951	June '52	Pressed Steel Car
International-Great Northern	120	Rack	100,000	38	0	Steel	43,000	April	1951-52	R. R. Shops
Interstate	209	Hopper	100,000	31	7	Steel	41,000	January	November	R. R. Shops
Kansas, Oklahoma & Gulf	10	Caboose	60,000	30	0	Steel	48,000	December	1952	Int'l. Ry. Car
Lake Superior & Ishpeming	90	Box	110,000	40	6	Steel	44,500	February	June '52	Pullman-Standard
	300	Ore	140,000	21	2	Steel	40,000	February	Aug. '52	Bethlemen Steel
LaSalle & Bureau County	12	Cov. Hopper	140,000	29	3	Steel	54,000	June	Jan. '52	Amer. Car & Fdy.
Lehigh Valley	350	Gondola	140,000	52	6	Steel	56,800	January	Apr. '52	Bethlehem Steel
Lehigh & New England	500	Hopper	100,000	33	0	Steel	39,200	October	1951-52	Amer. Car & Fdy.
Litchfield & Madison	100	Hopper	100,000	33	0	Steel	.....	March	.....	General American
Louisiana & Arkansas	500	Hopper	140,000	40	8	Steel	49,000	March	1952	Pullman-Standard
Louisville & Nashville	2,200	Box	100,000	40	6	Steel	45,400	January	1952	Pullman-Standard
	300	Box	100,000	50	6	Steel	53,000	January	1952	Pressed Steel Car
	3,000	Hopper	100,000	33	0	Steel	40,400	January	1952	Pullman-Standard
	100	Cov. Hopper	140,000	29	3	Steel	52,700	February	1952	Pullman-Standard
Macon, Dublin & Savannah	2	Caboose	60,000	30	0	Steel	48,000	July	Jan. '52	Int'l. Ry. Car
Maine Central	15	Cov. Hopper	140,000	29	3	Steel	.....	July	1952	Pullman-Standard
Minneapolis, Northfield & Southern	100	Box	100,000	40	6	Steel	44,000	January	1952	Pullman-Standard
Minneapolis, St. Paul & Sault Ste. Marie	350	Box	100,000	40	6	Steel	48,500	February	.....	R. R. Shops
	200	Gondola	100,000	41	0	Steel	49,000	February	.....	R. R. Shops
	50	Ballast	140,000	40	8	Steel	54,200	October	.....	Amer. Car & Fdy.
Missouri-Kansas-Texas	500	Triple Hopper	140,000	42	8	Steel	47,000	October	July '52	Pressed Steel Car
	25	Flat	100,000	53	6	Steel	55,000	April	Feb. '52	R. R. Shops
Missouri Pacific	500	Gondola	140,000	52	6	Steel Frame	58,000	November	1952	R. R. Shops
Monongahela	4	Air Dump	140,000	29	6	Steel	62,800	November	1952	Magor Car
Nashville, Chattanooga & St. Louis	1	Gondola	100,000	40	6	Steel	.....	February	1952	Pullman-Standard
New Orleans Public Belt	10	Cov. Hopper	.....	..	..	.....	.....	1951	.....	Thrall Car
New York Central	1,000	Box	110,000	40	6	Steel	45,000	April	Dec. '52	Despatch Shops
	200	Caboose	.....	33	7	Steel	53,000	1951	May '52	St. Louis Car
	500	Flat	140,000	50	6	Steel	57,000	March	July '52	General American
	4	Transformer	336,000	67	6	Steel	166,000	September	May '52	Despatch Shops
	6	Transformer	250,000	58	4	Steel	125,400	September	Apr. '52	Despatch Shops
	2	Special Flats	490,000	45	4	Steel	115,000	October	July '52	Despatch Shops
	1,000	Gondola	140,000	52	6	Steel	61,500	January	Aug. '52	Greenville Steel Car
	50	Tank	12,500g	43	2	Steel	50,500	April	Oct. '52	General American
	2,500	Hopper	110,000	31	6	Steel	42,600	April	Mar. '53	Despatch Shops
New York, New Haven & Hartford	200	Flat	100,000	40	0	Steel Frame	47,000	January	1951-52	R. R. Shops
	550	Hopper	140,000	4[illegible]	8	Steel	51,000	June	1952	Pullman-Standard
New York, Susquehanna & Western	35	Box	100,000	40	6	Steel	45,400	October	1952	Pullman-Standard
Norfolk Southern	150	Gondola	100,000	41	6	Steel	41,800	January	Jan. '52	Magor Car
Norfolk & Western	3,000	Hopper	140,000	36	9	Steel	50,300	January	1951-53	R. R. Shops
	500	Box	100,000	40	6	Steel	45,400	January	Jan.-Feb. '52	Pullman-Standard
	100	Cov. Hopper	140,000	29	3	Steel	49,500	April	July-Sept. '52	Greenville Steel Car
	50	Cov. Hopper	140,000	29	3	Steel	49,500	September	Sept. '52	Greenville Steel Car
	1,000	Gondola	140,000	46	0	Steel	59,500	September	May-Sept. '52	Virginia Bridge
Northern Pacific	1,000	Box	100,000	40	6	Steel	47,000	February	1952	R. R. Shops
	250	Gondola	140,000	41	6	Steel	47,000	March	1952	Amer. Car & Fdy.
	200	Ore	140,000	19	10	Steel	41,300	February	1952	R. R. Shops
	50	Caboose	80,000	30	0	Steel	47,300	February	1952	R. R. Shops

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Pennsylvania	250	Cov. Hopper	140,000	31	0	Steel	49,900	February	Jan. '52	R. R. Shops
	1,900	Gondola	140,000	52	6	Steel	55,100	November	Oct. '52	R. R. Shops
	1,500	Gondola	140,000	46	0	Steel	48,600	November	Jan. '53	R. R. Shops
	200	Gondola	140,000	65	6	Steel	63,100	November	Apr. '53	R. R. Shops
	1,000	Box	100,000	40	6	Steel	46,100	November	Apr. '53	R. R. Shops
	200	Cov. Hopper	140,000	29	3	Steel	49,700	November	May '53	R. R. Shops
	200	Flat	140,000	50	0	Steel	52,100	November	May '53	R. R. Shops
Pittsburgh & Lake Erie	1,000	Gondola	140,000	52	6	Steel	61,500	January	May '52	Bethlehem Steel
	1,000	Cov. Hopper	110,000	31	6	Steel	42,600	April	Dec. '52	Pullman-Standard
Pittsburgh & West Virginia	5	Caboose	60,000	30	0	Steel	48,000	April	Jan. '52	Int'l. Ry. Car
Reading	1,000	Hopper	100,000	33	0	Steel	39,100	January	1952	Bethlehem Steel
	500	Gondola	110,000	52	6	Steel	51,600	January	1952	Bethlehem Steel
	500	Gondola	140,000	52	6	Steel	51,600	January	1952	Bethlehem Steel
Richmond, Fredericksburg & Potomac	100	Box	100,000	40	6	Steel	45,600	January	Apr. '52	Pullman-Standard
	50	Gondola	140,000	52	6	Steel	39,300	March	Feb. '52	General American
St. Louis-San Francisco	250	Box	100,000	40	6	Steel	45,200	February	1952	Pullman-Standard
	200	Gondola	140,000	52	6	Steel	55,800	April	1952	Pullman-Standard
	100	Wood Rack	100,000	37	10	Steel	42,400	February	1952	R. R. Shops
	15	Caboose	.....	29	2	Steel Frame	45,100	March	1952	R. R. Shops
Seaboard Air Line	400	Cov. Hopper	140,000	29	3	Steel	50,300	September	Aug. '52	Pullman-Standard
	300	Gondola	100,000	41	6	Steel	40,600	September	Sept. '52	Pullman-Standard
	300	Gondola	100,000	41	6	Steel	38,500	September	Sept. '52	Pullman-Standard
	25	Caboose	60,000	30	0	Steel	48,300	April	December	R. R. Shops
Southern	25	Box	100,000	40	6	Steel	47,500	November	December	Pullman-Standard
	300	Hopper	140,000	40	8	Steel	45,600	July	1951-52	Pullman-Standard
Southern Pacific	1,600	Box	100,000	40	6	Steel Frame	44,800	March	1951-52	Pullman-Standard
	500	Ballast	140,000	31	0	Steel Frame	45,700	March	1951-52	Amer. Car & Fdy.
	100	Gondola	140,000	65	5	Steel	62,200	March	Aug. '52	Greenville Steel Car
	1,500	Box	100,000	40	6	Steel Frame	44,600	March	1951-52	R. R. Shops
	500	Gondola	100,000	41	6	Steel Frame	39,700	March	Oct.-Nov.	R. R. Shops
	400	Gondola	100,000	41	6	Steel	41,500	March	1951-52	R. R. Shops
	1,000	Box	100,000	50	6	Steel Frame	55,000	March	1951-53	R. R. Shops
Spokane, Portland & Seattle	500	Box	100,000	40	6	Steel	45,000	April	Oct. '52	N. P. Shops
Tennessee Central	200	Hopper	100,000	35	0	Steel	41,000	June	Oct. '52	Pullman-Standard
Texas & Pacific	250	Gondola	140,000	52	6	Steel	50,400	September	June '52	R. R. Shops
Union Pacific	500	Stock	80,000	40	6	Steel	.....	January	1951	R. R. Shops
	500	Stock	80,000	40	6	Steel	.....	July	1952	R. R. Shops
	500	Cov. Hopper	140,000	29	3	Steel	.....	January	1952	R. R. Shops
	100	Caboose	.....	..	..	Steel	.....	July	1952	R. R. Shops
Virginian	1,000	Hopper	110,000	33	0	Steel	41,900	September	Sept. '52	Bethlehem Steel
	300	Box	110,000	40	6	Steel Frame	44,000	February	July '52	Pullman-Standard
	20	Pulpwood	100,000	36	8	Steel	42,000	May	June '52	R. R. Shops
Wabash	300	Box	100,000	40	6	Steel	.....	April	1952	R. R. Shops
	400	Box	100,000	40	6	Steel	.....	May	1953	Amer. Car & Fdy.
	200	Box	100,000	50	6	Steel	.....	October	1953	Amer. Car & Fdy.
	300	Box	100,000	50	6	Steel	.....	May	1952	General American
	100	Cov. Hopper	140,000	29	3	Steel	.....	June	1952	Pullman-Standard
	50	Gondola	140,000	65	6	Steel	.....	June	Aug. '52	Greenville Steel Car
Western Maryland	1,000	Hopper	110,000	31	0	Steel	41,300	March	Sept. '52	Bethlehem Steel
	60	Gondola	140,000	52	6	Steel	62,000	March	September	Bethlehem Steel
	70	Flat	140,000	53	6	Steel	65,700	March	July '52	Greenville Steel Car
	750	Hopper	110,000	31	0	Steel	41,300	November	1953	Bethlehem Steel
	250	Box	100,000	40	6	Steel	48,000	November	1953	Amer. Car & Fdy.
Western of Alabama	50	Gondola	100,000	41	6	Steel	45,000	January	Apr. '52	Pullman-Standard
Western Pacific	300	Gondola	140,000	46	0	Steel	.....	November	.....	General American

Private Car Lines and Other Orders—For Service in the United States

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Alabama Power Co.	2	Hopper	100,000	..	..	.....	.....	May	.....	Thrall Car
	10	Hopper	100,000	33	0	Steel	.....	March	1952	Pullman-Standard
Allied Chemical & Dye Corp.:										
Barrett Division	100	Tank	12,510g.	36	2	Steel	63,500	October	.....	Amer. Car & Fdy.
General Chemical Division	20	Tank	7,990g.	..	..	.....	.....	May	1951	General American
	10	Tank	9,850g.	..	..	.....	.....	May	.....	General American
	3	Tank	7,300g.	..	..	.....	.....	June	.....	General American
R. J. Allison Co.	2	Tank	10,500g.		.	.....	.....	January	Mar. '52	General American
American Refrigerator Transit Co.	500	Refrig.	80,000	39	11	Steel	56,500	February	1952	Pressed Steel Car
Atlas Powder Co.	2	Tank	8,000g.	33	8	Steel	49,100	February	.....	Amer. Car & Fdy.
	3	Tank	8,000g.	33	4	Alum.	40,100	Aug.-Oct.	.....	Amer. Car & Fdy.
J. T. Baker Chemical Co.	2	Tank	8,000g.	33	10	Steel	44,300	January	.....	Amer. Car & Fdy.
	2	Tank	10,000g.	34	1	Steel	47,500	January	.....	Amer. Car & Fdy.
Belle Alkali Co.	2	Tank	8,000g.	..	..	.....	.....	February	October	General American
Bethlehem Steel	65	Gondola	100,000	41	6	Steel	38,900	March	November	Bethlehem Steel
	10	Flue-Dirt	200,000	30	6	Steel	.....	July	Aug. '52	Bethlehem Steel
	30	Hopper	140,000	50	0	Steel	.....	July	Aug. '52	Bethlehem Steel
Buffalo Electro-Chemical Co.	3	Tank	8,000g.	33	4	Alum.	38,700	July	.....	Amer. Car & Fdy.
	5	Tank	4,000g.	28	0	Alum.	32,000	July	.....	Amer. Car & Fdy.
	2	Tank	8,000g.	..	..	.....	.....	February	Jan. '52	General American
Burlington Refrigerator Express	15	Refrig.	106,000	33	2	Steel	62,800	March	August	Co. Shops
	100	Refrig.	106,000	33	2	Steel	62,800	March	October	Co. Shops
	250	Refrig.	107,000	33	2	Steel	61,600	March	1951-52	Co. Shops
	100	Refrig.	106,000	33	2	Steel	62,800	July	1952	Co. Shops
	100	Refrig.	109,000	33	2	Steel	60,000	July	1952	Pac. Car & Fdy.
Godfrey L. Cabot, Inc.	15	Cov. Hopper	100,000	..	..	.....	.....	April	1952	Magor Car
California Dispatch Line	25	Tank	11,000g.	35	2	Steel	67,300	Sept.-Oct.	.....	Amer. Car & Fdy.
Central Soya Co.	20	Cov. Hopper	140,000	29	3	Steel	.....	July	1952	Pullman-Standard
Cities Service Oil Co.	100	Tank	10,500g.	..	..	.....	.....	May	Apr. '52	General American
Col. Southern Chem. Corp.	130	Tank	11,000g.	37	4	Steel	86,100	March	.....	Amer. Car & Fdy.
Consolidated Chemical Industries	15	Tank	9,700g.	33	6	Steel	54,300	May	.....	Amer. Car & Fdy.
Crane Co.	5	Gondola	100,000	40	0	Steel	.....	April	Oct.-Dec.	Thrall Car
Detroit Steel Co.	6	Air Dump	140,000	29	6	Steel	62,800	May	1952	Magor Car
Dow Chemical Co.	10	Tank	8,000g.	..	..	.....	.....	July	.....	General American
E. I. du Pont de Nemours & Co.	2	Flat	140,000	..	..	.....	.....	October	.....	Thrall Car
	1	Tank	8,200g.	..	..	Steel	.....	November	.....	Amer. Car & Fdy.

Some of the "Unicel" box cars ordered in 1950 for use in Arabia

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Ethyl Corp.	15	Tank	11,200g.	39	3	Steel	85,200	February	.....	Amer. Car & Fdy.
	62	Tank	110,000	..	..	.....	.....	January	May '52	General American
Ethyl-Dow Chemical Co.	6	Tank	8,000g.	..	..	.....	.....	April	1951	General American
Foley Butane Co.	1	Tank	11,000g.	35	2	Steel	67,300	April	.....	Amer. Car & Fdy.
Ford Motor Co.	120	Gondola	70,000	40	0	Steel	63,000	January	Jan. '52	Greenville Steel Car
	119	Gondola	70,000	40	0	Steel	63,000	January	Mar. '52	Magor Car
	6	Flat	140,000	..	..	.....	.....	April	.....	Thrall Car
Fruit Growers' Express Co.	60	Mech. Refrig.	128,000	43	8	Steel	81,500	February	December	Co. Shops
	40	Mech. Refrig.	128,000	43	8	Steel	81,600	February	September	Co. Shops
Gas-Oil Products, Inc.	2	Tank	11,000g.	35	2	Steel	67,300	February	.....	Amer. Car & Fdy.
General Aniline Works	2	Tank	140,000	37	4	Steel	86,100	March	.....	Amer. Car & Fdy.
	4	Tank	10,000g.	33	11	Steel	52,700	August	.....	Amer. Car & Fdy.
	2	Tank	7,000g.	..	..	.....	.....	April	.....	General American
Great Lakes Steel Corp.	20	Gondola	140,000	40	0	Steel	63,400	September	Nov. '52	Greenville Steel Car
	40	Flat	140,000	40	0	Steel	56,500	September	Nov. '52	Greenville Steel Car
Halliburton Oil Well Cementing Co.	19	Cov. Hopper	140,000	29	3	Steel	52,100	January	.....	Amer. Car & Fdy.
J. M. Huber Co.	15	Cov. Hopper	100,000	45	10	Steel	61,000	August	Mar. '52	Magor Car
Interlake Iron Corp.	6	Hopper	180,000	40	5	Steel	.....	January	1950	Pullman-Standard
Kaiser Engineers	8	Flat	140,000	41	6	Steel	.....	February	Feb. '52	Thrall Car
	12	Air Dump	140,000	29	6	Steel	62,800	November	1952	Magor Car
H. J. Kaiser	4	Gondola	.....	..	..	.....	.....	June	.....	Thrall Car
Koppers Co.	6	Tank	7,000g.	..	..	.....	.....	March	December	General American
Lone Star Producing Co.	1	Tank	11,000g.	35	2	Steel	67,300	July	.....	Amer. Car & Fdy.
	50	Tank	8,000g.	..	..	Steel	.....	November	.....	Amer. Car & Fdy.
Lone Star Steel Co.	3	Gondola	140,000	65	6	Steel	61,400	May	July '52	Greenville Steel Car
Merchants Despatch Transportation Corp.	500	Refrig.	80,000	33	2	Steel	58,500	February	Oct. '52	Despatch Shops
	25	Refrig.	100,000	27	8	Steel	73,000	February	May '52	Despatch Shops
Michigan Chemical Corp.	2	Tank	110,000	..	..	.....	.....	February	.....	General American
National Zinc Co.	6	Tank	7,000g.	..	..	.....	.....	May	Jan. '52	General American
Oldbury Electro-Chemical Co.	2	Tank	4,000g.	..	..	.....	.....	August	.....	General American
Peoples Gas Light & Coke Co.	3	Gondola	140,000	50	6	Steel	.....	September	1952	Pullman-Standard
Propane Gas Service Co.	3	Tank	11,000g.	35	2	Steel	67,300	January	.....	Amer. Car & Fdy.
Protane Corp.	5	Tank	11,000g.	35	2	Steel	67,300	January	.....	Amer. Car & Fdy.
North American Car Corp.	17	Cov. Hopper	140,000	29	3	Steel	.....	July	1952	Pullman-Standard
Oliver Iron Mining Co.	2	Flat	100,000	53	6	Steel	.....	October	Mar. '52	Thrall Car
Rural Natural Gas	10	Tank	11,000g.	35	2	Steel	67,300	March	.....	Amer. Car & Fdy.
Schoenwald Petroleum	15	Tank	11,000g.	35	2	Steel	67,300	July	.....	Amer. Car & Fdy.
Shamrock Oil & Gas Corp.	25	Tank	10,500g.	..	..	.....	.....	March	1951	General American
Sharon Steel Co.	8	Air Dump	100,000	29	6	Steel	60,000	August	1952	Magor Car
Shippers' Car Line Corp.	95	Cov. Hopper	140,000	29	3	Steel	50,700	January	.....	Amer. Car & Fdy.
	200	Tank	8,000g.	33	4	Steel	42,400	October	.....	Amer. Car & Fdy.
	30	Tank	11,000g.	35	2	Steel	78,000	September	.....	Amer. Car & Fdy.
	8	Tank	10,000g.	..	..	Steel	.....	.....	.....	Amer. Car & Fdy.
	6	Tank	140,000	37	4	Steel	86,100	September	.....	Amer. Car & Fdy.
	200	Tank	11,000g.	35	2	Steel	78,000	September	.....	Amer. Car & Fdy.
	14	Tank	8,000g.	33	3	Steel	56,000	October	.....	Amer. Car & Fdy.
	100	Tank	10,000g.	33	6	Steel	46,100	October	.....	Amer. Car & Fdy.
	18	Tank	110,000	37	4	Steel	86,100	Oct.-Nov.	.....	Amer. Car & Fdy.
	125	Cov. Hopper	140,000	29	3	Steel	51,400	March	.....	Amer. Car & Fdy.
	25	Tank	11,000g.	35	2	Steel	67,300	April	.....	Amer. Car & Fdy.
	25	Tank	11,000g.	35	2	Steel	67,650	January	.....	Amer. Car & Fdy
Thos. E. Snyder Sons Co.	19	Tank	8,000g.	..	..	.....	.....	February	Jan. '52	General American
	2	Tank	6,000g.	..	..	.....	.....	February	Jan. '52	General American
Southern Alkali Corp.	155	Tank	10,000g.	..	..	.....	.....	May	.....	General American
	35	Tank	8,000g.	..	..	.....	.....	May	.....	General American

A specialized tank car for the Barrett Division of Allied Chemical & Dye Corp.

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
State Supply Co.	1	Tank	11,000g.	35	2	Steel	67,300	February	.....	Amer. Car & Fdy.
Stauffer Chemical Co.	5	Tank	7,000	..	..	.....	.....	February	December	General American
Suburban Fuel Tank Car	44	Tank	11,000g.	35	2	Steel	67,300	June	.....	Amer. Car & Fdy.
	6	Tank	11,000g.	37	4	Steel	86,100	June	.....	Amer. Car & Fdy.
Tank Gas Corp.	1	Tank	11,000g.	35	2	Steel	67,300	May	.....	Amer. Car & Fdy.
Tennessee Products & Chemical Corp.	5	Tank	140,000	37	4	Steel	86,100	September	.....	Amer. Car & Fdy.
Terminal Facilities, Inc.	3	Tank	10,500g.	..	..	.....	.....	January	Mar. '52	General American
Transportation Corps.	309	Flat	100,000	53	6	Steel Underframe	54,150	June	1952	Greenville Steel Car
	212	Box	100,000	40	6	Steel	.....	January	July-Aug.	Pullman-Standard
	38	Hopper	110,000	31	6	Steel	.....	April	1952	Pullman-Standard
	880	Ammunition	100,000	50	0	Steel	.....	May	1952	Pullman-Standard
	418	Box	100,000	40	6	Steel	.....	June	1952	Pullman-Standard
	100	Flat	200,000	54	0	Steel	.....	June	1952	Pullman-Standard
	2	Box	80,000	40	9	Steel	.....	June	1952	Pullman-Standard
	4	Gondola	80,000	40	9	Steel	.....	June	1952	Pullman-Standard
	2	Flat	80,000	40	9	Steel	.....	June	1952	Pullman-Standard
	5	Flat	200,000	54	0	Steel	.....	July	1952	Pullman-Standard
	12	Hopper	110,000	31	6	Steel	.....	October	1952	Pullman-Standard
	27	Box	100,000	40	6	Steel	.....	October	1952	Pullman-Standard
	150	Tank	10,000g.	33	6	Steel	45,700	February	.....	Amer. Car & Fdy.
	290	Tank	10,000g.	..	..	.....	.....	June	1951-52	General American
	22	Tank	110,000	..	..	.....	.....	June	Feb. '52	General American
	12	Tank	11,200g.	..	..	.....	.....	June	May '52	General American
	25	Tank	8,000g.	..	..	.....	.....	July	May '52	General American
	87	Tank	10,000g.	..	..	.....	.....	August	Jan. '52	General American
	50	Tank	7,500g.	..	..	.....	.....	August	June '52	General American
	40	Tank	7,500g.	..	..	.....	.....	April	December	General American
	50	Tank	10,000g.	..	..	.....	.....	May	Aug. '52	General American
	6	Air Dump	100,000	29	6	Steel	58,000	March	Mar. '52	Magor Car
	150	Flat	160,000	50	0	Composite	59,800	July	1952	Magor Car
	650	Flat	200,000	54	0	Composite	81,500	July	1952	Magor Car
Union Tank Car	50	Tank	100,000	..	..	.....	69,000	March	1952	Amer. Car & Fdy.
	800	Tank	100,000	..	..	.....	70,000	April	1952	Co. Shops
	600	Tank	100,000	..	..	.....	70,000	April	1952	Co. Shops
	400	Tank	100,000	..	..	.....	70,000	September	1952	Co. Shops
United Fuel Gas Co.	10	Tank	8,000g.	..	..	Steel	.....	November	.....	Amer. Car & Fdy.
Virginia Smelting Co.	2	Tank	60,000	..	..	.....	.....	January	.....	General American
Warren Maritime Corp.	1	Tank	11,000g.	35	2	Steel	67,600	May	.....	Amer. Car & Fdy.
	7	Tank	8,000g.	33	8	Steel	48,500	February	.....	Amer. Car & Fdy.
	400	Tank	11,000g.	35	2	Steel	67,300	September	.....	Amer. Car & Fdy.
Western Fruit Express Co.	300	Refrig.	108,000	33	2	Steel	60,600	July	1952	Pacific Car & Fdy.
Western Natural Gas Co.	9	Tank	12,500g.	39	10	Steel	71,000	January	.....	Amer. Car & Fdy.
Westinghouse Elec. Corp.	1	Flat	500,000	53	6	Steel	.....	July	Mar. '52	Thrall Car
	2	Dep. Flat	350,000	76	0	Steel	152,000	February	Jan. '52	Greenville Steel Car
Wilson Car Lines	100	Refrig.	80,000	36	0	Steel	54,500	June	Dec. '52	Co. Shops
Youngstown Sheet & Tube Co.	10	Air Dump	140,000	29	6	Steel	62,800	February	1952	Magor Car

Canada

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
British Columbia Electric Ry.	3	Tank	11,410g.	36	4	Steel	.....	June	1952	Can. Car & Fdy.
Canadian General Transit Co.	5	Tank	110,000	35	1	Steel	.....	March	1952	Can. Car & Fdy.
	9	Tank	11,500g.	36	4	Steel	.....	March	1952	Can. Car & Fdy.
	8	Tank	10,000g.	34	5	Steel	.....	April	1952	Can. Car & Fdy.
	2	Tank	8,000g.	33	10	Steel	.....	April	1952	Can. Car & Fdy.
	10	Tank	12,500g.	38	10	Steel	.....	April	June '52	Can. Car & Fdy.
	70	Tank	10,500g.	35	1	Steel	.....	April	Mid.-'52	Can. Car & Fdy.
Canadian National	500	Hopper	140,000	40	8	Steel	48,600	February	1952	National Steel Car
	750	Hopper	140,000	40	8	Steel	48,600	June	1952	National Steel Car
	300	Flat	100,000	52	6	Steel	51,000	February	1952	National Steel Car
	500	Flat	100,000	52	6	Steel	51,000	June	1952	National Steel Car
	75	Long. Hopper	140,000	40	8	Steel	51,000	April	June '52	National Steel Car
	500	Refrig.	100,000	40	0	Steel	63,800	June	1952	National Steel Car
	1,000	Auto	80,000	40	6	Steel	.....	March	1952	Can. Car & Fdy.
	100	Flat	60,000	40	0	Steel	.....	March	Mar. '52	Can. Car & Fdy.
	1,500	Box	100,000	40	6	Steel	.....	June	1952	Can. Car & Fdy.
	125	Cov. Hopper	140,000	36	0	Steel	55,500	July	1952	Can. Car & Fdy.
	1,500	Gondola	140,000	52	6	Steel	54,000	February	1952	Eastern Car
	50	Box	60,000	35	10	Steel Frame	32,600	February	Jan. '52	Eastern Car
	30	Air Dump	.....	..	..	Steel	62,000	June	Feb. '52	Eastern Car

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
Canadian Natl. (Cont.)	10	Stock	60,000	35	10	Steel Frame	32,600	June	Jan. '52	Eastern Car
	260	Box	100,000	40	6	Composite	44,700	June	Nov. '52	Eastern Car
	750	Gondola	140,000	52	6	Steel	54,000	June	1952	Eastern Car
	5	Hopper	140,000	40	8	Alum. Alloy	36,000	October	Jan. '52	Eastern Car
Canadian Pacific	300	Long. Hopper	140,000	40	8	Steel	48,760	August	Dec. '52	Eastern Car
	300	Gondola	140,000	52	6	Steel	54,000	August	Nov. '52	Eastern Car
	1,000	Box	100,000	40	6	Steel	44,300	September	1952	Can. Car & Fdy.
	300	Auto	100,000	40	6	Steel	49,100	September	1953	Can. Car & Fdy.
	100	Flat	140,000	52	6	Steel	.....	September	Jan. '53	Can. Car & Fdy.
	400	Refrig.	100,000	40	0	Steel	63,800	September	1952	National Steel Car
	25	Exp. Refrig.	100,000	40	0	Steel	62,100	September	Nov. '52	National Steel Car
	300	Cov. Hopper	140,000	36	0	Steel	49,500	September	Dec. '52	National Steel Car
	350	Box	100,000	40	6	Steel	44,300	September	Dec. '52	National Steel Car
	1,200	Box	100,000	..	..	.....	.....	October	.....	R. R. Shops
Canadian Refractories, Ltd.	2	Cov. Hopper	140,000	36	0	Steel	55,500	September	Aug. '52	Can. Car & Fdy.
Hollinger-Hanna, Ltd.	20	Air Dump	100,000	29	6	Steel	65,100	July	1952	National Steel Car
Imperial Oil, Ltd.	11	Tank	5,000Imp.g.	26	2	Steel	.....	May	July '52	Can. Car & Fdy.
Magor Car Corp.	6	Air Dump	100,000	29	6	Steel	65,100	November	1952	National Steel Car
Ontario Northland	25	Flat	100,000	52	6	Steel	52,000	May	June '52	National Steel Car
	12	Air Dump	140,000	29	6	Steel	67,960	July	1952	National Steel Car
Quebec Iron & Titanium Corp.	20	Ore	100,000	19	7	Steel	.....	March	June '52	Can. Car & Fdy.
Quebec, North Shore & Labrador	100	Hopper	140,000	30	7	Steel	46,600	January	September	Can. Car & Fdy.
	75	Hopper	140,000	30	7	Steel	.....	September	Jan. '53	Can. Car & Fdy.
	15	Caboose	.....	..	..	.....	.....	December	.....	Can. Car & Fdy.
Roberval & Saguenay	10	Hopper	140,000	40	8	Alum. Alloy	36,000	January	Aug. '52	Eastern Car
Steel Co. of Canada	22	Hopper	140,000	17	4	Steel	.....	September	1952	National Steel Car
	4	Flat	140,000	27	0	Steel	.....	September	1952	National Steel Car
	12	Gondola	140,000	50	0	Steel	.....	September	1952	National Steel Car
	4	Gondola	140,000	27	0	Steel	.....	September	1952	National Steel Car
Toronto, Hamilton & Buffalo	100	Gondola	140,000	52	6	Steel	.....	December	1953	National Steel Car
United States Army	31	Gondola	100,000	41	6	Steel	.....	March	Jan. '52	Can. Car & Fdy.

United States—Export

Purchaser	No.	Class	Capacity	Length Ft.	Length In.	Construction	Weight Lb.	Date of Order	Date of Delivery	Builder
American Smelting & Refining Co. (For Mexico)	100	Box	100,000	40	6	Steel	.....	July	1952	Pullman-Standard
American Sugar Refining Co. (Cuba)	30	Cane	60,000	37	6	Steel	31,800	January	1952	Magor Car
Bolivian State Rys.	60	Box	66,000	36	1	Steel Frame	31,800	October	1952	Magor Car
Brazilian National Steel Co.	14	Gondola	140,000	38	11	Steel	44,700	October	Dec. '52	Greenville Steel Car
	14	Flat	140,000	50	0	Steel	52,900	October	Dec. '52	Greenville Steel Car
	10	Hopper	140,000	37	0	Steel	50,500	October	Dec. '52	Greenville Steel Car
	14	Gondola	140,000	38	11	Steel	.....	October	Dec. '52	Greenville Steel Car
British American Oil Co.	20	Tank	12,500g.	39	10	Steel	71,000	September	.....	Amer. Car & Fdy.
Consolidated of Cuba	350	Box	100,000	40	6	Steel	44,000	March	1952	Pressed Steel Car
Corporaccion de Fomento de la Produccion (Chile)	23	Gondola	100,000	44	1	Steel	50,500	November	Dec. '52	Greenville Steel Car
	22	Gondola	100,000	44	1	Steel	45,000	November	Dec. '52	Greenville Steel Car
Esso—										
Standard Oil (Colombia)	1	Tank	6,000g.	31	3	Steel	49,000	August	.....	Amer. Car & Fdy.
(For Brazil)	2	Tank	10,500g.	..	..	.....	.....	August	.....	General American
Kaiser Engineers	52	Gondola	140,000	34	1	Steel	45,000	July	July '52	Magor Car
National of Mexico	1,000	Box	100,000	40	6	Steel	.....	January	1952	Pullman-Standard
Petroleos Mexicanos	1	Tank	11,000g.	35	2	Steel	67,300	February	.....	Amer. Car & Fdy.
Socony-Vacuum Oil Co. (For Brazil)	2	Tank	10,500g.	..	..	.....	.....	July	Feb. '52	General American
Steel Co. of Canada	5	Air Dump	140,000	29	6	Steel	62,800	July	1952	Magor Car

The Boston & Maine received 750 50-ton box cars of this type during 1951

This two-unit 4,000-hp. freight locomotive, part of the Consolidation line of Fairbanks, Morse & Co., is one of several which has been placed in service on the New York Central's West Shore and Boston & Albany lines

Motive Power Orders in 1951

By H. C. WILCOX
Associate Editor
and FRED C. MILES
Associate Editor

Motive power ordered in the United States in 1951 included 4,413 diesel units (including 4,394 diesel-electric units), 49 steam locomotives and 15 electric locomotives, according to data obtained by *Railway Age*. Included in these totals are export orders for 342 diesel units, 27 steam locomotives and 1 electric locomotive. The accompanying detailed list of locomotive orders was compiled by *Railway Age* from information submitted by railroads, private car lines, industrial concerns and contract locomotive builders. As in previous years, when orders for diesels were reported in terms of complete locomotives, rather than as units, they are so listed below, to indicate how the purchaser intends to use the equipment. Orders for complete locomotives, however, were divided into their unit components when compiling figures for the smaller tables.

With completion of the figures of motive power orders for 1951 there have been compiled 23 years of order statistics out of the 26 years since the first diesel-electric switcher went into service. In that time about 17,000 units of diesel-electric power have been placed in service and many more are still on order.

It is always interesting to speculate on what the future may bring and the available statistics may serve to throw some light on what may be ahead in the field of motive power. In this connection two dates are used, August 31, 1951, and November 1, 1951, the former

LOCOMOTIVES ORDERED, 1929-1951

Year	Steam	Diesel	Electric	Total	U. S. Export
1951	22	4,071*	14	4,107	370
1950	15	4,473*	28#	4,516	234
1949	13	1,782*	10	1,805	115
1948	54	2,661*	2	2,717	435
1947	79	2,149	1	2,229	655
1946	55	989	8	1,052	629
1945	148	691	6	845	1,895
1944	74	680	3	757	134
1943	413	635	0	1,048	60
1942	363	894	12	1,269	32
1941	302	1,104	38	1,444	85
1940	207	492	13	712	85
1939	119	249	32	400	40
1938	36	160	29	225	24
1937	173	145	36	354	56
1936	435	77	24	536	22
1935	30	60	7	97	15
1934	72	37	76	185	17
1933	17	25	0	42	7
1932	5	7	0	12	1
1931	62	21	91	174	28
1930	382	18	21	421	20
1929	1,055	80	95	1,230	106

Note: U. S. Government purchases excluded for years 1942-1944.
* 1951, 1950, 1949 and 1948 diesel orders are shown in units; diesel orders for previous years are shown in locomotives, which may include one or more units.
# Includes 10 gas turbine electrics.

Ownership of Motive Power*

STEAM LOCOMOTIVES

	1941	1950	1951	1951 vs. 1941 Increase or Decrease		1951 vs. 1950 Increase or Decrease	
Passenger	6,727	3,867	3,269	...	3,458	...	598
Freight	24,378	16,387	14,352	...	10,026	...	2,035
Passenger or Freight	1,245	1,096	1,030	...	215	...	66
Switch	7,110	4,225	3,697	...	3,413	...	528
Total	39,460	25,575	22,348	...	17,112	...	3,227

DIESEL-ELECTRIC LOCOMOTIVES

	1941	1950	1951	1951 vs. 1941 Increase or Decrease		1951 vs. 1950 Increase or Decrease	
Passenger	168	966	1,049	881	...	83	...
Freight	34	2,503	3,585	3,551	...	1,082	...
Passenger or Freight	2	325	509	507	...	184	...
Switch	982	5,580	6,786	5,804	...	1,206	...
Total	1,186	9,374	11,929	10,743	...	2,555	...

*Data from A. A. R. Car Service Report No. 56-A1.

being related to the latest available performance figures and the latter the latest available ownership figures.

As of August 31 last there were 23,174 steam locomotives on the ownership roster of the Class I railroads, along with 11,467 diesel-electric locomotives composed of 16,462 units. In freight service, steam power still performs 50 per cent of the locomotive mileage and the diesel 48.5 per cent. On the basis of gross ton-miles, however, the diesel is doing 53 per cent of the work.

In passenger service, that part of the job done by the steam locomotive has declined to 34 per cent of the total locomotive mileage, and the diesel has taken over 60 per cent. In switching service the diesel is performing 66.5 per cent of the switching-locomotive hours and the steam locomotive has dropped down to 30 per cent. These figures give a summary picture of the relative amounts of work done by the diesel-electric and the remaining steam power as of August 31, 1951.

Trend to Diesels Maintained

Once again, it is worthwhile to call attention to the facts that there are 23,000 steam locomotives left on the Class I railroads of this country and that the 16,462 diesel-electric units have replaced approximately as many steam locomotives in 25 years as still remain on the railroads' rosters. For those who are looking forward to the day when all of the steam locomotives will be replaced by diesel-electrics these figures are of considerable significance.

The table entitled "Ownership of Motive Power" gives some data that may be useful in estimating the motive power situation over the next few years. These figures are based upon statistics as of November 1 for each of the years included and are compiled to show briefly what has happened in the 10 years since 1941.

In passenger service the number of steam locomotives has decreased by 3,458; the decrease for the year ending November 1, 1951, was 598 units. Ten years of diesel-electric installations have seen an increase, in passenger service, of 881 locomotives, 83 of which were installed in the last year. In freight service the number of steam units decreased 10,026, of which 2,035 represented the reduction in ownership for the last year. In the same ten years, diesel-electric freight locomotives increased by 3,551 units, 1,082 of which were installed in the last year. Of combination passenger and freight locomotives, steam units decreased by 215 in ten years, 66 of which were in the last year. In diesel-electrics, ten years show the installation of 507 locomotives, 184 of which were placed in service in the last year. In the switching field the number of steam locomotives decreased by 3,413, the reduction in the last single year being 528 units. As to diesel-electric switchers, ten years saw an increase of 5,804 locomotives, 1,206 of which were placed in service in the last single year.

The switcher was the first type of diesel-electric locomotive to be introduced in the railroad field and it is interesting to note that in 1941 there were 7,110 steam switchers and in 1951 there were 6,786 diesel-electric switchers. While the rate of replacement of steam by diesel in the switching field for several years ran along at a ratio of 1.5 to 2.5 to 1, this replacement rate has now dropped to less than 1 to 1, and there are now almost as many diesel-electric switchers as there were steam switchers in 1941. But there remained 3,697 steam units in 1951.

It has not been a matter of replacing steam by diesel entirely, for as the diesel switcher came into the field its versatility, coupled with increases in traffic, developed many new uses for the diesel-electric type of switcher so that if and when all of the steam switchers are replaced by diesel-electrics there will probably be several hundred more diesel-electric locomotives of this type than there were originally steam. This too is worth keeping in mind.

Steam Roster Declined

The years 1947 to 1951 inclusive have seen the greatest number of installations of diesel-electric locomotives and a comparable number of retirements in the steam locomotive field. If the rate of replacement of steam by diesel were to continue at the rate of installations and retirements for the year 1951 it is obvious that many years would elapse before all of the steam power disappears. Whether or not this ever will actually take place is, at the moment, a matter of conjecture.

Many people connected with the railroad field and interested in it already have observed that the rapid installation of diesel power is creating a situation where, at some not too distant date, the railroads will have reached a peak of installations of this new type of power

DIESEL LOCOMOTIVE UNITS ORDERED IN 1951 BY HORSEPOWER AND PURCHASER

Horsepower	Railroads	Private Car Lines and Others	For Export	Total
2,400	26	0	0	26
2,250	166	0	0	166
2,000	6	0	0	6
1,600	781	2	134	917
1,500	1,616	33	61	1,710
1,400	0	0	30	30
1,350	0	0	13	13
1,200	636	42	5	683
1,000	181	0	10	191
800	153	83	0	236
675	0	0	1	1
660	22	8	14	44
600	31	13	10	54
550	1	136	22	159
480	0	2	0	2
450	0	1	0	1
400	4	20	12	36
380	0	2*	1	3
300	6	38	11	55
275	0	3*	1	4
250	4	0	0	4
243	0	1†	0	1
225	0	9†	0	9
200	0	1†	0	1
190	0	3†	2**	5
165	0	2	0	2
150	0	38	13	51
130	0	1	2†	3
	3,633	438	342	4,413

† Diesel-Hydraulic
* One is Diesel-Hydraulic
** One is Diesel-Hydraulic; one is Diesel-Mechanical

A four-unit 6,400-hp. freight locomotive built by the Baldwin-Lima-Hamilton Corporation

in the various services. Many estimates have been made by "the boys with the sharp pencils" some of whom are willing to venture the prediction that when steam is completely replaced by diesel the total ownership figure will be somewhere between 25 and 30 thousand units. This guess ignores some facts and possibilities, the effect of which does not seem to be too clear at the moment. e.g., the fluctuations of railroad traffic, the increasing age of diesel-electric power, and the possibility that the railroads will get more service out of each individual unit than they have yet learned to do. There is also the ever-present possibility that some new type of railway motive power, such as the gas turbine, the atomic locomotive, or whatever the future may bring, may break upon the scene as did the diesel-electric and upset all of the statistical trends once again.

STEAM LOCOMOTIVES ORDERED IN 1951

For Service in the United States

Purchaser	No.	Type	Service	Weight Lb.	Tractive Force	Cylinders	Date of Order	Date of Delivery	Builder
Norfolk & Western	6	2-8-8-2	Freight	582,900	152,206 Simple 126,838 Comp'd	25x32(2) 39x32(2)	January	1951-52	R. R. Shops
	15	0-8-0	Switching	247,000	62,932	25x28(2)	September	May-Dec.'52	R. R. Shops
Transportation Corps	1	2-8-0	Freight	163,000	34,100	20x26(2)	July	July '52	Baldwin

For Export

Ecuadorian State Rys	7	2-8-0	Freight	152,000	32,150	19x22(2)	February	May '52	Baldwin
New South Wales Gov't Rys. (Australia)	20	2-8-2	Freight	200,200	35,000	21x28(2)	January	December	Baldwin

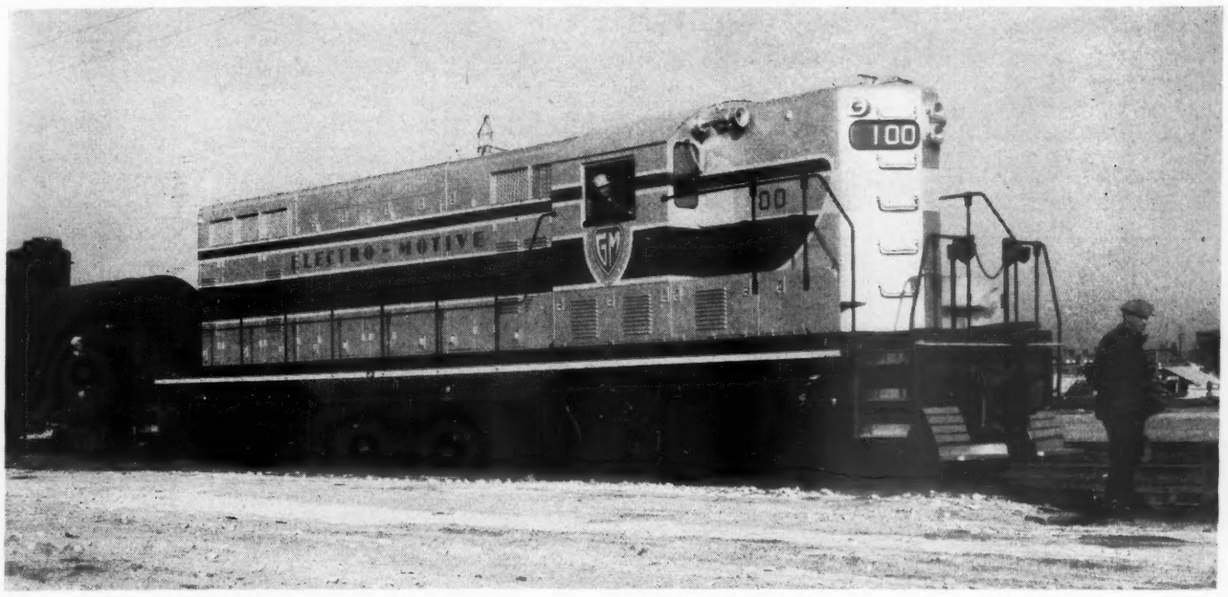
ELECTRIC, DIESEL AND OTHER INTERNAL COMBUSTION LOCOMOTIVES

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Aberdeen & Rockfish	1	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	January	.....	Electro-Motive
Akron & Barberton Belt	1	B-B	Switching	Diesel-Elec.	240,000	1,200	January	March	Baldwin-West.
Akron, Canton & Youngstown	3	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	January	December	Fairbanks, Morse-West.
Apache	1	B-B	Switching	Diesel-Elec.	240,000	1,200	November	May '52	Baldwin-West.
Apalachicola Northern	2	B-B	Switching	Diesel-Elec.	248,000	1,200	October	.....	Electro-Motive
Arkansas & Louisiana Missouri	1	B-B	Switching	Diesel-Elec.	248,000	1,200	May	.....	Electro-Motive
Atchison, Topeka & Santa Fe	10	....	Switching	Diesel-Elec.	.....	1,000	February	July	.....
	10	....	Switching	Diesel-Elec.	.....	1,000	October	June-July'52	.....
	14	B-B	Switching	Diesel-Elec.	246,000	1,200	September	July-Aug.'52	Fairbanks, Morse
	25	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	June	Jan.-Feb. '52	Electro-Motive
	25	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	October	Aug.-Sept.'52	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	September	June-July'52	Fairbanks,Morse-West.

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Atlanta & St. Andrews Bay	2	B-B	Gen. Purpose	Diesel-Elec.	253,000	1,500	June	Feb. '52	Electro-Motive
Atlanta & West Point	1	B-B	Switching	Diesel-Elec.	240,000	1,200	April	August	Baldwin-West.
Atlantic & Danville	1	B-B	Rd.-Sw.	Diesel-Elec.	230,000	1,600	January	July	American-G. E.
Atlantic & East Carolina	1	B-B	Rd.-Sw.	Diesel-Elec.	233,000	1,500	January	.....	Electro-Motive
Atlantic Coast Line	20	B-B	Freight	Diesel-Elec.	257,500	1,500	May	Sept.-Oct.	Electro-Motive
	39	B-B	Freight	Diese-Elec.	232,000	1,500	May	Sept.-Nov.	Electro-Motive
	32	B-B	Rd.-Sw.	Diesel-Elec.	238,000	1,500	May	Aug.-Dec.	Electro-Motive
	44	B-B	Switching	Diesel-Elec.	246,500	1,200	May	Sept.-Dec.	Electro-Motive
	5	B-B	Freight	Diesel-Elec.	232,000	1,500	August	December	Electro-Motive
	10	B-B	Switching	Diesel-Elec.	210,000	800	August	Mar.-Ap. '52	Electro-Motive
	4	B-B	Rd.-Sw.	Diesel-Elec.	238,000	1,500	August	December	Electro-Motive
Baltimore & Ohio	27	B-B	Freight	Diesel-Elec.	247,500	1,500	June	Jan. '52	Electro-Motive
	9	B-B	Freight	Diesel-Elec.	247,000	1,600	June	Feb. '52	American-G. E
	3	B-B	Freight	Diesel-Elec.	253,000	1,600	June	Apr. '52	Baldwin-West.
	5	B-B	Rd.-Sw.	Diesel-Elec.	242,000	1,600	June	Feb. '52	Baldwin-West.
	37*	B-B	Road	Diesel-Elec.	246,000	1,500	November	.....	Electro-Motive
	12*	B-B	Freight	Diesel-Elec.	.....	1,600	December	1952	American-G. E.
	6*	B-B	Freight	Diesel-Elec.	.....	1,600	December	1952	Baldwin-West.
Baltimore & Ohio Chicago Terminal	8	B-B	Switching	Diesel-Elec.	248,000	1,200	June	Feb. '52	Electro-Motive
Bauxite & Northern	1	B-B	Switching	Diesel-Elec.	248,000	1,200	June	.....	Electro-Motive
Beaufort & Morehead	1	B-B	Switching	Diesel-Elec.	90,000	300	March	December	G. E.-Cummins
Belfast & Moosehead Lake	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	February	April	G. E.-Cooper-Bess.
Belt of Chicago	4	B-B	Switching	Diesel-Elec.	248,000	1,200	April	June-Oct.	Electro-Motive
	6	B-B	Switching	Diesel-Elec.	248,000	1,500	April	May-Nov	Electro-Motive
Birmingham Southern	1	B-B	Switching	Diesel-Elec.	248,000	1,600	January	September	American-G. E.
Boston & Maine	9	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	September	.....	Electro-Motive
	7	B-B	Switching	Diesel-Elec.	248,000	1,200	September	.....	Electro-Motive
	11	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	September	.....	American-G. E.
	12	B-B	Switching	Diesel-Elec.	.....	660	September	.....	American-G. E.
Cambria & Indiana	6	B-B	Switching	Diesel-Elec.	245,750	1,200	December	.....	Electro-Motive
Central of Georgia	4	B-B	Switching	Diesel-Elec.	248,000	1,200	November	.....	Electro-Motive
Central of New Jersey	1	B-B	Switching	Diesel-Elec.	90,000	300	September	Mar. '52	General Electric
	1	C-C	Frt.-Sw.	Diesel-Elec.	360,760	1,600	January	November	American-G. E.
	7	B-B	Switching	Diesel-Elec.	234,700	1,200	January	June	Baldwin-West.
	1	B-B	Frt.-Sw.	Diesel-Elec.	246,000	1,000	January	September	American-G. E.
Central of Pennsylvania	9	B-B	Switching	Diesel-Elec.	248,000	1,200	January	December	Electro-Motive
	13	C-C	Frt.-Sw.	Diesel-Elec.	360,000	1,600	January	1951-52	American-G. E.
Central Vermont	1	B-B	Switching	Diesel-Elec.	229,700	1,000	June	October	American-G. E.
Charleston & Western Carolina	10	B-B	Gen. Purpose	Diesel-Elec.	240,000	1,500	July	December	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	247,000	1,200	July	December	Electro-Motive
Chesapeake & Ohio	27	A1A-A1A	Passenger	Diesel-Elec.	334,000	2,250	May	.....	Electro-Motive
	81	B-B	Road	Diesel-Elec.	246,000	1,500	September	.....	Electro-Motive
	21	B-B	Road	Diesel-Elec.	255,000	1,500	September	.....	Electro-Motive
	10	B-B	Switching	Diesel-Elec.	248,000	1,200	September	.....	Electro-Motive
	12	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	November	.....	Electro-Motive
	21	B-B	Switching	Diesel-Elec.	247,000	1,200	May	.....	Electro-Motive
	59	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	May	.....	Electro-Motive
	11	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	August	Feb. '52	Baldwin-West.
	26	C-C	Rd.-Sw.	Diesel-Elec.	.....	1,600	1951	.....	American-G. E.
Chicago & Eastern Illinois	2	B-B	Rd.-Sw.	Diesel-Elec.	256,000	1,500	April	.....	Electro-Motive
Chicago & Illinois Western	1	B-B	Switching	Diesel-Elec.	248,000	1,200	May	November	Electro-Motive
Chicago & North Western	6	B-B	Switching	Diesel-Elec.	195,100	660	January	June-July-Aug.	American-G. E.
	7	B-B	Switching	Diesel-Elec.	232,300	1,000	January	September	American-G. E.
	4	B-B	Switching	Diesel-Elec.	235,500	1,200	January	July-Aug.	Baldwin-West.
	2	C-C	Freight	Diesel-Elec.	289,000	1,600	January	Jan. '52	Baldwin-West.
	5	B-B	Freight	Diesel-Elec.	245,230	1,600	January	August	American-G. E.
	4	B-B	Freight	Diesel-Elec.	244,600	1,600	January	March	American-G. E.
	26	B-B	Freight	Diesel-Elec.	240,000	1,500	January	Mar.-Apr.	Electro-Motive
	4	B-B	Freight	Diesel-Elec.	252,000	1,500	January	April	Electro-Motive
	4	A1A-A1A	Passenger	Diesel-Elec.	336,000	2,250	January	July-Aug.	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	240,000	1,200	December	.....	Baldwin-West.
	1	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	December	.....	Baldwin-West.
Chicago, Burlington & Quincy	2	B-B	Switching	Diesel-Elec.	246,000	1,200	March	.....	Electro-Motive
	34	B-B	Rd.-Sw.	Diesel-Elec.	250,000	1,500	March	.....	Electro-Motive
	6	B-B	Rd.-Sw.	Diesel-Elec.	250,000	1,500	August	.....	Electro-Motive
Chicago Great Western	4	B-B	Freight	Diesel-Elec.	246,500	1,500	February	May	Electro-Motive
	2	B-B	Freight	Diesel-Elec.	244,100	1,500	February	September	Electro-Motive
Chicago Heights Terminal Transfer	2	B-B	Rd.-Sw.	Diesel-Elec.	256,000	1,500	April	.....	Electro-Motive
Chicago, Milwaukee, St. Paul & Pacific	6	3(B-B)	Passenger	Diesel-Elec.	.....	4,500	1951	November	Electro-Motive
	6	3(B-B)	Freight	Diesel-Elec.	.....	4,500	1951	November	Electro-Motive
	12	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,500	1951	1952	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	.....	1,200	1951	October	Electro-Motive
	10	B-B	Switching	Diesel-Elec.	246,000	1,200	1951	1952	Fairbanks, Morse
	10	B-B	Switching	Diesel-Elec.	.....	1,000	1951	October	American-G. E.
	7	B-B	Switching	Diesel-Elec.	.....	1,200	1951	November	Baldwin-West.
Chicago, Rock Island & Pacific	5	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,600	April	August	American-G. E.
	15	B-B	Suburban	Diesel-Elec.	247,000	1,600	April	Oct.-Nov.	American-G. E.
	25	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	April	1951	Electro-Motive
	6	A1A-A1A	Passenger	Diesel-Elec.	314,000	2,250	April	Feb.-Mar.'52	Electro-Motive
	25	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	November	1952	Electro-Motive
	27	B-B	Switching	Diesel-Elec.	233,000	800	November	1952	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	198,500	800	December	.....	Baldwin-West.
Chicago, St. Paul, Minneapolis & Omaha	4	B-B	Switching	Diesel-Elec.	230,500	800	January	Sept.-Oct.	Electro-Motive
	6	B-B	Freight	Diesel-Elec.	240,000	1,500	January	August	Electro-Motive
Cincinnati Union Terminal	5	B-B	Switching	Diesel-Elec.	234,000	800	January	June & Sept.	Electro-Motive
Clinchfield	17	B-B	Road	Diesel-Elec.	246,000	1,500	March	1951-52	Electro-Motive
Colorado & Wyoming	12	B-B	Switching	Diesel-Elec.	248,000	800	October	1951-52	Electro-Motive
	2	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	October	December	Electro-Motive
	12	B-B	Switching	Diesel-Elec.	230,000	800	December	.....	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	248,000	1,500	December	.....	Electro-Motive
Columbia, Newberry & Laurens	2	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	July	.....	Electro-Motive
Copper Range	1	B-B	Switching	Diesel-Elec.	240,000	1,200	January	August	Baldwin-West.
Delaware, Lackawanna & Western	4	B-B	Switching	Diesel-Elec.	228,000	800	1951	1952	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	248,000	1,200	1951	1952	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	1951	1952	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	231,000	800	1951	.....	Electro-Motive
	4	B-B	Rd.-Sw.	Diesel-Elec.	245,000	1,500	1951	.....	Electro-Motive
	11	A1A-A1A	Passenger	Diesel-Elec.	330,000	2,250	1951	.....	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	248,000	1,200	1951	.....	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	1951	.....	Electro-Motive
	8	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	1951	1952	American-G. E.
Delaware & Hudson	4	B-B	Rd.-Sw.	Diesel-Elec.	247,600	1,500	January	June	American-G. E.
	15	B-B	Rd.-Sw.	Diesel-Elec.	247,600	1,500	November	Mar.-Ap. '52	American-G. E.
Denver & Rio Grande Western	5	4(B-B)	Freight	Diesel-Elec.	976,000	6,000	October	May-Aug.'52	Electro-Motive
	2	3(B-B)	Freight	Diesel-Elec.	732,000	4,500	October	May-Aug.'52	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	234,000	1,500	October	May-Aug.'52	Electro-Motive
Detroit & Toledo Shore Line	2	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	May	.....	Electro-Motive
	5	B-B	Freight	Diesel-Elec.	246,000	1,500	September	Sept. '52	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	246,000	1,200	September	Oct. '52	Electro-Motive
Detroit Terminal	1	B-B	Switching	Diesel-Elec.	248,000	1,200	October	February	Electro-Motive
Detroit, Toledo & Ironton	5	B-B	Rd.-Sw.	Diesel-Elec.	254,000	1,500	February	.....	Electro-Motive
Duluth, South Shore & Atlantic	2	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	December	.....	Baldwin-West.

*To be leased from the Equitable Life Assurance Society.

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Erie	4	B-B	Switching	Diesel-Elec.	248,000	1,200	June	Mar. '52	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	248,000	1,200	August	May '52	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	233,100	1,000	June	Mar. '52	American-G. E.
	1	4(B-B)	Freight	Diesel-Elec.	922,700	6,000	February	December	Electro-Motive
	1	B-B	Freight	Diesel-Elec.	229,000	1,500	June	Feb. '52	Electro-Motive
	2	B-B	Frt.-Sw.	Diesel-Elec.	239,910	1,600	June	November	American-G. E.
	2	B-B	Frt.-Sw.	Diesel-Elec.	246,500	1,600	February	December	Baldwin-West.
	4	B-B	Frt.-Sw.	Diesel-Elec.	246,500	1,600	August	Jan. & Feb.'52	Baldwin-West.
	3	B-B	Frt.-Sw.	Diesel-Elec.	244,500	1,500	June	Feb. '52	Electro-Motive
	3	B-B	Frt.-Sw.	Diesel-Elec.	244,500	1,500	August	Apr. '52	Electro-Motive
	4	B-B	Pass.-Sw.	Diesel-Elec.	247,480	1,600	August	Feb. '52	American-G. E.
	10	B-B	Switching	Diesel-Elec.	240,000	1,200	December	.....	Baldwin-West.
Florida East Coast	5	B-B	Road	Diesel-Elec.	258,000	1,500	April	December	Electro-Motive
Galveston Wharves	1	B-B	Switching	Diesel-Elec.	196,000	600	March	.....	Electro-Motive
Georgia	2	B-B	Switching	Diesel-Elec.	224,000	1,200	May	October	Electro-Motive
	1	B-B	Gen. Purpose	Diesel-Elec.	233,000	1,500	February	September	Electro-Motive
Georgia Northern	1	B-B	Switching	Diesel-Elec.	230,000	800	February	.....	Electro-Motive
Grand Trunk Western	5	B-B	Switching	Diesel-Elec.	248,000	1,200	December	Feb. '52	Electro-Motive
Great Northern	28	B-B	Road	Diesel-Elec.	243,000	1,500	August	.....	Electro-Motive
	15	C-C	Rd.-Sw.	Diesel-Elec.	330,000	1,500	August	.....	Electro-Motive
	4	B-B	Road	Diesel-Elec.	257,600	1,600	August	August	American-G. E.
Great Western	2	B-B	Switching	Diesel-Elec.	198,000	600	December	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	247,000	1,200	December	.....	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	247,000	1,200	June	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	198,000	600	October	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	198,000	600	October	.....	Electro-Motive
Greenville & Northern	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	September	November	G.-E.-Cooper-Bess.
Gulf Coast Lines	8	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,500	August	May '52	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	235,600	1,200	August	March '52	Baldwin-West.
Gulf, Mobile & Ohio	3	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	January	October	American-G. E.
Houston Belt & Terminal	10	B-B	Switching	Diesel-Elec.	246,000	1,200,	March	.....	Electro-Motive
	1	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	November	Apr.'52	Baldwin-West.
Illinois Central	1	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	June	Jan.'52	Electro-Motive
	8	A1A-A1A	Passenger	Diesel-Elec.	297,000	2,250	November	May-July'52	Electro-Motive
	7	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	November	May '52	Electro-Motive
	35	B-B	Switching	Diesel-Elec.	239,000	1,200	November	May-July '52	Electro-Motive
Illinois Terminal	1	B-B	Switching	Diesel-Elec.	228,000	800	January	.....	Electro-Motive
International-Great Northern	6	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	September	.....	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	240,000	1,200	August	Apr.'52	Baldwin-West.
Kansas City Southern	4	A1A-A1A	Passenger	Diesel-Elec.	317,000	2,250	July	Feb.'52	Electro-Motive
Kansas, Oklahoma & Gulf	4	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	May	.....	Electro-Motive
Lakefront Dock & R. R. Terminal	3	B	Pusher	Electric	60,000	250	May	Apr.'52	General Electric
Lakeside & Marblehead	2	B-B	Switching	Diesel-Elec.	231,000	800	June	.....	Electro-Motive
Lake Superior & Ishpeming	3	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,000	January	December	American-G. E.
LaSalle & Bureau County	1	B-B	Switching	Diesel-Elec.	230,000	800	February	November	Baldwin-West.
Lehigh & Hudson River	2	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	June	July-Oct.	American-G. E.
Lehigh Valley	2	B-B	Switching	Diesel-Elec.	229,700	1,000	January	May	American-G. E.
Louisiana & Arkansas	2	B-B	Freight	Diesel-Elec.	230,000	1,500	March	April	Electro-Motive
	4	B-B	Freight	Diesel-Elec.	231,000	1,500	March	April	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	240,000	1,200	January	April	Baldwin-West.
	5	B-B	Rd.-Sw.	Diesel-Elec.	245,000	1,500	July	November	Electro-Motive
Louisville & Nashville	29	B-B	Road	Diesel-Elec.	240,000	1,600	June	1952	American-G. E.
	10	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	June	1951	American-G. E.
	8	B-B	Rd.-Sw.	Diesel-Elec.	230,000	1,000	June	1951	American-G. E.
	10	B-B	Road	Diesel-Elec.	240,000	1,500	May	1951-52	Electro-Motive
	10	B-B	Freight	Diesel-Elec.	240,000	1,500	May	1951	Electro-Motive
Louisville, New Albany & Corydon	1	B-B	Switching	Diesel-Elec.	90,000	300	March	August	G. E.-Cummins
Ludington & Northern	1	B-B	Switching	Diesel-Elec.	230,000	800	November	.....	Electro-Motive
Maine Central	1	B-B	Switching	Diesel-Elec.	248,000	1,200	February	.....	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	February	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	.....	1,000	September	.....	American-G. E.
Manufacturers Ry	1	B-B	Switching	Diesel-Elec.	230,000	1,000	April	September	American-G. E.
Maryland & Pennsylvania	1	B-B	Switching	Diesel-Elec.	248,000	1,200	April	.....	Electro-Motive
Minneapolis & St. Louis	3	B-B	Switching	Diesel-Elec.	243,000	1,000	1951	October	American-G. E.
Minn., St. Paul & Sault Ste. Marie	2	B-B	Passenger	Diesel-Elec.	246,490	1,500	1951	.....	Electro-Motive
	2	2(B-B)	Freight	Diesel-Elec.	445,700	3,000	1951	.....	Electro-Motive
	3	B-B	Rd.-Sw.	Diesel-Elec.	234,700	1,500	1951	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	246,000	1,200	1951	.....	Fairbanks, Morse-West.
	2	B-B	Switching	Diesel-Elec.	224,000	1,200	1951	.....	Baldwin-West.
	1	B-B	Rd.-Sw.	Diesel-Elec.	241,800	1,000	1951	.....	American-G. E.
	1	B-B	Freight	Diesel-Elec.	242,000	1,500	1951	.....	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	248,000	1,200	1951	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	231,000	1,000	1951	.....	American-G. E.
Minnesota, Dakota & Western	1	B-B	Switching	Diesel-Elec.	160,000	550	March	December	G. E.-Cummins
Mississippi Export	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	September	October	G. E.-Cooper-Bess.
Missouri-Illinois	2	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,600	Mar.-Nov.	1951 1952	American-G. E.
Missouri-Kansas-Texas	8	B-B	Frt.-Pass.	Diesel-Elec.	258,000	1,500	February	Jan.-Feb.'52	Electro-Motive
	4	B-B	Frt.-Pass.	Diesel-Elec.	230,000	1,500	February	Jan.-Feb.'52	Electro-Motive
	8	B-B	Rd.-Sw.	Diesel-Elec.	227,000	1,500	March	November	Electro-Motive
	5	B-B	Rd.-Sw.	Diesel-Elec.	227,000	1,500	March	September	American-G. E.
	6	B-B	Rd.-Sw.	Diesel-Elec.	234,000	1,600	March	October	Baldwin-West.
	10	B-B	Yd.-Sw.	Diesel-Elec.	237,000	1,200	July	Sept.-Oct.-Dec.	Baldwin-West.
	10	B-B	Yd.-Sw.	Diesel-Elec.	245,000	1,200	July	1952	Electro-Motive
Missouri Pacific	41	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	September	.....	Electro-Motive
	7	B-B	Switching	Diesel-Elec.	240,000	1,200	August	Apr. '52	Baldwin-West.
	40	B-B	Freight	Diesel-Elec.	.....	1,600	August	1951-52	American-G. E.
	18	A1A-A1A	Passenger	Diesel-Elec.	316,800	2,250	August	1952	American-G. E.
Modesto & Empire Traction	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	October	Feb. '52	G. E.-Cooper-Bess.
Monongahela Connecting	5	B-B	Switching	Diesel-Elec.	230,000	1,000	May	October	American-G. E.
Montour	4	B-B	Switching	Diesel-Elec.	241,000	1,200	September	May '52	Electro-Motive
Nashville, Chattanooga & St. Louis	6	B-B	Road	Diesel-Elec.	237,000	1,500	February	.....	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	248,000	1,200	February	.....	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	February	.....	Electro-Motive
	1	B-B	Passenger	Diesel-Elec.	230,530	1,500	March	November	Electro-Motive
Nevada Northern	1	C-C	Rd.-Sw.	Diesel-Elec.	330,000	1,500	December	.....	Electro-Motive
New Orleans Public Belt	2	B-B	Switching	Diesel-Elec.	198,500	800	January	May	Baldwin-West.
New York Central	22	A1A-A1A	Passenger	Diesel-Elec.	333,000	2,250	March	May '52	Electro-Motive
	138	B-B	Freight	Diesel-Elec.	246,000	1,500	March	June '52	Electro-Motive
	27	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	March	May '52	Electro-Motive
	11	B-B	Switching	Diesel-Elec.	246,000	1,200	March	Feb.'52	Electro-Motive
	6	B-B	Switching	Diesel-Elec.	232,000	800	March	Feb.'52	Electro-Motive
	30	B-B	Freight	Diesel-Elec.	247,000	1,600	March	October	American-G. E.
	27	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	March	October	American-G. E.
	13	B-B	Switching	Diesel-Elec.	198,000	600	March	December	American-G. E.
	8	B-A1A	Passenger	Diesel-Elec.	306,000	2,400	March	Mar.'52	Fairbanks, Morse-West.
	12	B-B	Freight	Diesel-Elec.	252,000	1,600	March	Feb.'52	Fairbanks, Morse-West.
	26	B-B	Freight	Diesel-Elec.	250,000	1,600	March	Feb.'52	Baldwin-West.
	3	B-B	Switching	Diesel-Elec.	235,000	1,200	March	October	Baldwin-West.
	64	B-B	Freight	Diesel-Elec.	246,000	1,500	September	Feb.'53	Electro-Motive
	40	B-B	Switching	Diesel-Elec.	246,000	1,200	September	Feb.'53	Electro-Motive
	20	B-B	Switching	Diesel-Elec.	232,000	800	September	Mar.'53	Electro-Motive
	35	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	September	May '52	American-G. E.
	43	B-B	Switching	Diesel-Elec.	245,000	1,000	September	June '52	American-G. E.
	17	B-B	Switching	Diesel-Elec.	247,000	1,200	September	May '52	Fairbanks, Morse-West
	18	B-B	Switching	Diesel-Elec.	246,000	1,200	September	June '52	Baldwin-West.



One of Electro-Motive's 1,500-hp. general purpose diesels

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
New York, Chicago & St. Louis	10	B-B	Switching	Diesel-Elec.	.....	1,000	September	Jan.'52	American-G. E.
	7	B-B	Switching	Diesel-Elec.	247,000	1,200	September	Apr.'52	Electro-Motive
	8	B-B	Switching	Diesel-Elec.	231,000	800	September	Apr.'52	Electro-Motive
New York Dock	2	B-B	Switching	Diesel-Elec.	88,000	400	March	December	G. E.-Cater.
New York, New Haven & Hartford	10	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	May	Oct. & Nov.	American-G. E.
	5	B-B	Road	Diesel-Elec.	243,580	1,600	May	November	American-G. E.
	15	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	October	Jan. '52	American-G. E.
	10	B-A1A	Passenger	Diesel-Elec.	294,000	2,400	January	1951-52	Fairbanks, Morse-West.
Niagara Junction	7	B-B	Switching	Electric	192,000	1,030	March	Sept.'52	General Electric
Northern Pacific	4	B-B	Switching	Diesel-Elec.	229,700	1,000	May	November	American-G. E.
	3	B-B	Switching	Diesel-Elec.	246,000	1,200	May	Feb.'52	Electro-Motive
	4	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	May	Mar.'52	Electro-Motive
	1	B-B	Freight	Diesel-Elec.	246,000	1,500	May	December	Electro-Motive
	1	B-B	Passenger	Diesel-Elec.	244,500	1,500	May	Feb.'52	Electro-Motive
	2	B-B	Passenger	Diesel-Elec.	258,000	1,500	May	Feb.'52	Electro-Motive
	2	4(B-B)	Freight	Diesel-Elec.	984,500	6,000	May	December	Electro-Motive
Pennsylvania	54	B-B	Road	Diesel-Elec.	258,000	1,500	May	.....	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	May	.....	Electro-Motive
	24	A1A-A1A	Passenger	Diesel-Elec.	339,000	2,250	May	.....	Electro-Motive
	22	A1A-A1A	Passenger	Diesel-Elec.	339,000	2,250	November	.....	Electro-Motive
	12	B-B	Road	Diesel-Elec.	258,000	1,500	November	.....	Electro-Motive
	32	B-B	Switching	Diesel-Elec.	248,000	1,200	November	.....	Electro-Motive
	13	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	November	.....	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	May	1952	Fairbanks, Morse-West.
	13	B-B	Switching	Diesel-Elec.	246,000	1,200	November	1952	Fairbanks, Morse-West.
	18	B-B	Freight	Diesel-Elec.	248,000	1,600	May	September	Baldwin-West.
	9	B-B	Freight	Diesel-Elec.	248,000	1,600	May	December	Baldwin-West.
	15	B-B	Freight	Diesel-Elec.	248,000	1,600	May	1952	Baldwin-West.
	20	B-B	Switching	Diesel-Elec.	240,000	1,200	May	Jan. '52	Baldwin-West.
	44	B-B	Switching	Diesel-Elec.	240,000	1,200	November	1952	Baldwin-West.
	1	....	Rd.-Sw.	Diesel-Elec.	.....	1,200	November	1952	Baldwin-West.
	8	....	Transfer	Diesel-Elec.	.....	2,400	November	1952	Baldwin-West.
	18	....	Freight	Diesel-Elec.	.....	1,600	May	.....	American-G. E.
	40	B-B	Switching	Diesel-Elec.	.....	1,600	May	.....	American-G. E.
	13	B-B	Switching	Diesel-Elec.	.....	1,000	November	1952	American-G. E.
	2	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,000	November	1952	American-G. E.
	33	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	November	1952	American-G. E.
	6	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	November	1952	American-G. E.
Peoria & Pekin Union	2	B-B	Switching	Diesel-Elec.	248,000	1,200	February	November	Electro-Motive
Philadelphia, Bethlehem & New England	4	B-B	Switching	Diesel-Elec.	246,000	1,200	February	.....	Electro-Motive
Pittsburgh & Lake Erie	10	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	March	September	Electro-Motive
	12	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,500	September	July '52	Electro-Motive
	10	B-B	Rd.-Sw.	Diesel-Elec.	246,000	1,200	September	Oct.'52	Electro-Motive
	2	A1A-A1A	Passenger	Diesel-Elec.	318,000	2,250	September	May '52	American-G. E.
Pittsburgh & West Virginia	6	B-B	Switching	Diesel-Elec.	250,000	2,000	November	May '52	Fairbanks, Morse-West.
Pittsburgh, Allegheny & McKees Rocks	1	B-B	Switching	Diesel-Elec.	90,000	300	March	Mar. '52	G. E.-Cummins
Reading	15	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	February	1951	American-G. E.
	15	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	February	1951	Baldwin-West.
	20	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	September	May & June '52	American-G. E.
	10	B-B	Rd.-Sw.	Diesel-Elec.	.....	1,600	September	June & July '52	Baldwin-West.
	8	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	September	July '52	Electro-Motive
	2	B-B	Rd.-Pass.	Diesel-Elec.	256,000	1,500	September	July '52	Electro-Motive
	12	....	Rd.-Sw.	Diesel-Elec.	.....	1,600	December	1952	American-G. E.
	8	....	Rd.-Sw.	Diesel-Elec.	.....	1,600	December	1952	Electro-Motive
	4	....	Rd.-Sw.	Diesel-Elec.	.....	1,600	December	1952	Baldwin-West.
Richmond, Fredericksburg & Potomac	6	A1A-A1A	Passenger	Diesel-Elec.	320,000	2,250	May	Feb.-July'52	Electro-Motive
Rutland	5	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,600	January	June	American-G. E.
	6	B-B	R.L.-Sw.	Diesel-Elec.	240,000	1,000	January	November	American-G. E.
	1	B-B	Rd.-Sw.	Diesel-Elec.	139,000	600	November	December	G. E.-Cooper-Bess.

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
St. Johnsbury & Lamoille County	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	January	February	G. E.-Cater.
St. Louis, Brownsville & Mexico	8	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	September	.....	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	240,000	1,200	August	Apr. '52	Baldwin-West.
St. Louis-San Francisco	9	B-B	Freight	Diesel-Elec.	232,000	1,500	Feb.-May	June-Oct.	Electro-Motive
	27	B-B	Freight	Diesel-Elec.	247,100	1,500	May	Jan.-Feb.'52	Electro-Motive
	10	B-B	Switching	Diesel-Elec.	247,900	1,200	May	Jan. '52	Electro-Motive
St. Louis Southwestern	2	B-B	Freight	Diesel-Elec.	247,300	1,600	January	June	American-G. E.
	2	B-B	Freight	Diesel-Elec.	245,900	1,600	January	July	American-G. E.
	6	B-B	Freight	Diesel-Elec.	231,100	1,500	January	July	Electro-Motive
	12	B-B	Freight	Diesel-Elec.	229,900	1,500	April	October	Electro-Motive
	8	B-B	Freight	Diesel-Elec.	230,000	1,500	December	July '52	Electro-Motive
	4	B-B	Freight	Diesel-Elec.	245,900	1,600	December	Mar. '52	American-G. E.
	4	B-B	Freight	Diesel-Elec.	247,300	1,600	July	December	American-G. E.
	4	B-B	Switching	Diesel-Elec.	243,350	1,200	April	Jan. '52	Electro-Motive
Salt Lake, Garfield & Western	1	B-B	Switching	Diesel-Elec.	90,000	300	November	June '52	G. E.-Cummins
Savannah & Atlanta	1	B-B	Rd.-Sw.	Diesel-Elec.	288,000	1,600	November	April. '52	Baldwin-West.
Seaboard Air Line	4	B-B	Switching	Diesel-Elec.	240,000	1,200	September	Feb. '52	Baldwin-West.
	6	B-B	Switching	Diesel-Elec.	230,000	1,200	September	Feb. '52	Baldwin-West.
	10	B-B	Freight	Diesel-Elec.	249,000	1,600	September	December	American-G. E.
	15	B-B	Freight	Diesel-Elec.	241,250	1,500	September	Jan. '52	Electro-Motive
Sioux City Terminal	3	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	May	1951–52	G. E.-Cooper-Bess.
Southeastern	1	B-B	Switching	Diesel-Elec.	248,000	1,200	March	.....	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	March	.....	Electro-Motive
Southern	2	B-B	Switching	Diesel-Elec.	245,000	1,000	April	September	American-G. E.
	12	B-B	Freight	Diesel-Elec.	246,000	1,500	October	Oct. '52	Electro-Motive
	2	B-B	Freight	Diesel-Elec.	246,000	1,500	October	Oct. '52	Electro-Motive
	16	B-B	Switching	Diesel-Elec.	240,000	1,500	October	Apr.-June'52	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	248,000	1,200	October	Oct. '52	Electro-Motive
	55	B-B	Switching	Diesel-Elec.	248,000	1,600	October	Feb.-May'52	American-G. E.
	10	B-B	Switching	Diesel-Elec.	248,000	1,200	October	July '52	Baldwin-West.
Southern Pacific	1	B-B	Freight	Diesel-Elec.	131,450	660	February	February	G. E.-Cooper-Bess.
	14	4(B-B)	Freight	Diesel-Elec.	877,555	6,000	March	Aug. & Sept.	Electro-Motive
	26	C-C	Freight	Diesel-Elec.	310,327	1,600	March	Feb.-Apr.	Baldwin-West.
	8	C-C	Switching	Diesel-Elec.	310,327	1,600	March	Jan. & Feb. '52	Baldwin-West.
	3	B-B	Switching	Diesel-Elec.	220,200	1,200	March	Feb. '52	Baldwin-West.
	32	B-B	Switching	Diesel-Elec.	131,450	1,000	March	Oct. '51-Jan. '52	American-G. E.
	3	B-B	Freight	Diesel-Elec.	131,450	660	March	September	G. E.-Cooper-Bess.
	3	2(B-B)	Freight	Diesel-Elec.	424,000	1,600	March	October	Electro-Motive
	10	3(B-B)	Freight	Diesel-Elec.	659,284	4,500	March	September	Electro-Motive
	2	3(A1A-A1A)	Passenger	Diesel-Elec.	641,300	6,750	March	1952	American-G. E.
	1	A1A-A1A	Passenger	Diesel-Elec.	303,000	2,250	March	May '52	American-G. E.
	1	2(B-B)	Freight	Diesel-Elec.	424,000	1,600	March	April	Electro-Motive
Spokane, Portland & Seattle	3	B-B	Switching	Diesel-Elec.	243,000	1,200	February	September	Electro-Motive
	2	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	February	November	American-G. E.
	8	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	September	Feb. '52	American-G. E.
Steelton & Highspire	2	B-B	Switching	Diesel-Elec.	246,000	1,200	February	.....	Electro-Motive
Suncook Valley	1	B-B	Rd.-Sw.	Diesel-Elec.	88,000	400	May	July	G. E.-Cater.
Tennessee, Alabama & Georgia	2	....	Freight	Diesel-Elec.	244,400	1,500	February	April	Electro-Motive
	1	....	Freight	Diesel-Elec.	244,400	1,500	February	August	Electro-Motive
Tennessee Central	4	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	October	Mar. '52	American-G. E.
Terminal R. R. Assn. of St. Louis	13	B-B	Switching	Diesel-Elec.	248,000	1,200	December	.....	Electro-Motive
Texas & Northern	2	B-B	Switching	Diesel-Elec.	115,000	1,000	May	July	American-G. E.
Texas & Pacific	8	B-B	Switching	Diesel-Elec.	230,000	800	August	Feb. '52	Electro-Motive
	8	B-B	Switching	Diesel-Elec.	248,000	1,200	March	August	Electro-Motive
	12	B-B	Switching	Diesel-Elec.	245,300	1,500	Mar. & Aug.	Aug. '51 & Feb. '52	Electro-Motive
	30	B-B	Freight	Diesel-Elec.	235,000	1,500	March	August	Electro-Motive
	6	B-B	Freight	Diesel-Elec.	235,000	1,500	August	Feb. '52	Electro-Motive
	8	A1A-A1A	Passenger	Diesel-Elec.	330,000	2,250	March	November	Electro-Motive
Toledo, Peoria & Western	2	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	May	.....	Electro-Motive
Tremont & Gulf	2	B-B	Switching	Diesel-Elec.	230,000	800	November	.....	Electro-Motive
Union R. R.	3	B-B	Switching	Diesel-Elec.	250,000	1,200	February	October	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	250,000	1,200	August	November	Electro-Motive
	8	B-B	Switching	Diesel-Elec.	250,000	1,200	August	Mar. '52	Electro-Motive
Union Pacific	10	3(B-B)	Freight	Diesel-Elec.	247,000	4,500	March	Oct.-Nov.	Electro-Motive
	8	2(B-B)	Yd. Transfer	Diesel-Elec.	493,000	2,400	March	October	Electro-Motive
	6	C-C	Rd. Sw.	Diesel-Elec.	325,000	1,600	March	Dec. '51 & Jan. '52	Baldwin-West.
Upper Merion & Plymouth	1	B-B	Switching	Diesel-Elec.	88,000	400	May	July	G. E.-Cater.
Utah	3	B-B	Rd.-Sw.	Diesel-Elec.	360,000	1,600	March	Jan. '52	American-G. E.
Wabash	2	B-B	Switching	Diesel-Elec.	240,000	1,200	January	April	Baldwin-West.
	1	A1A-A1A	Passenger	Diesel-Elec.	329,000	2,250	March	October	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	.....	800	March	August	G. M. Diesel, Ltd.
	6	2(B-B)	Freight	Diesel-Elec.	462,000	3,000	March	Jan. '52	Electro-Motive
	1	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	March	Feb. '52	Electro-Motive
	9	B-B	Rd.-Sw.	Diesel-Elec.	247,000	1,500	March	Feb. '52	Electro-Motive
	5	B-B	Switching	Diesel-Elec.	246,000	1,200	March	Feb. '52	Electro-Motive
Washington & Old Dominion	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	October	November	G. E. -Cooper-Bess.
Western Pacific	3	4(B-B)	Road	Diesel-Elec.	.....	6,000	May	.....	Electro-Motive
White Sulphur Springs & Yellowstone Park	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	August	Nov. '52	G. E.-Cooper-Bess.
Willamina & Grande Ronde	1	B-B	Rd.-Sw.	Diesel-Elec.	90,000	300	September	Mar. '52	G. E.-Cummins
Winchester & Western	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	May	October	G. E.-Cooper-Bess.

Other Orders — For Service in the United States

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Alan Wood Steel Co.	1	B-B	Switching	Diesel-Elec.	100,000	300	January	Feb. '52	G. E.-Cummins
Allegheny Ludlum Steel Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	July	Mar. '52	G. E.-Cummins
Aluminum Ore Co.	1	B-B	Switching	Diesel-Elec.	160,000	550	March	December	G. E.-Cummins
American Agricultural Chemical Co.	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	December	Feb. '52	G. E.-Cooper-Bess.
American Rolling Mill Co.	1	B-B	Switching	Diesel-Elec.	198,500	800	August	December	Baldwin-West.
American Smelting & Refining Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	August	May '52	G. E.-Cummins
American Steel Foundries	2	B-B	Switching	Diesel-Elec.	130,000	480	January	November	Whit.-Hercules
Anaconda Copper Mining Co.	2	B-B	Switching	Diesel-Elec.	248,000	1,200	April	.....	Electro-Motive
Armco Steel Corp.	3	B	Switching	D-Hyd.	50,000	190	March	Mar. '52	Whit.-Hercules
Atlantic Creosoting	1	B	Switching	Diesel-Elec.	50,000	150	February	May	Whit.-Cummins
Atlantic Steel Co.	1	B-B	Switching	Diesel-Elec.	160,000	550	March	Mar. '52	G. E.-Cummins
Baker Wood Preserving Co.	1	B	Switching	Diesel-Elec.	50,000	150	February	May	G. E.-Cummins
Bethlehem Steel Co.	2	B-B	Switching	Diesel-Elec.	200,000	600	March	December	Whit.-Cummins
	1	B-B	Switching	Diesel-Elec.	140,000	450	June	Mar. '52	Whit.-Cummins
	1	B-B	Switching	Diesel-Elec.	100,000	300	March	Apr. '52	G. E.-Cummins

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Bethlehem Steel Co. (Cont.)	1	B-B	Switching	Diesel-Elec.	130,000	550	March	September	G. E.-Cummins
	1	B-B	Switching	Diesel-Elec.	160,000	550	March	November	G. E.-Cummins
	2	B-B	Switching	Diesel-Elec.	100,000	300	March	Apr. '52	G. E.-Cummins
	1	B	Switching	Diesel-Elec.	80,000	300	August	July '52	G. E.-Cummins
	1	B	Switching	Diesel-Elec.	70,000	275	November	Oct. '52	G. E.-Cummins
Birmingham Slag	2	B-B	Switching	Diesel-Elec.	130,000	550	October	1952	G. E.-Cummins
Briggs Manufacturing Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	April	September	G. E.-Cummins
A. M. Byers Co.	1	B	Switching	Diesel-Elec.	50,000	150	June	November	G. E.-Cummins
Calumet & Hecla Consolidated Copper Co.	1	B-B	Switching	Diesel-Elec.	240,000	1,200	February	August	Baldwin-West.
Cambria Slag Co.	1	B-B	Switching	Diesel-Elec.	100,000	300	September	June '52	G. E.-Cummins
	1	B	Switching	Diesel-Elec.	80,000	275	September	Jan. '52	G. E.-Cummins
Carbon Limestone Co.	1	B	Switching	D-Hyd.	50,000	380	August	May '52	Whit.-Hercules
Carnegie-Illinois Steel Corp.	3	B-B	Switching	Diesel-Elec.	160,000	550	November	Oct. '52	G. E.-Cummins
Carpenter Steel Co.	1	B	Switching	D-Hyd.	24,000	130	May	Jan. '52	Whit.-Hercules
Central Procurement Agency (U. S. Govt.)	6	B	Switching	Diesel-Elec.	50,000	150	May	December	Whit.-Cummins
Central Warehouse Corp.	1	B-B	Switching	Diesel-Elec.	88,000	400	February	July	G. E.-Cater.
Cherokee Brick & Tile Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	February	October	G. E.-Cummins
	1	B	Switching	Diesel-Elec.	50,000	150	February	August	G. E.-Cummins
Climax Molybdenum Co.	1	B-B	Mine	Electric	40,000	200	May	June '52	General Electric
Consumers Power Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	April	Mar. '52	G. E.-Cummins
Detroit Steel Corp.	1	B	Switching	Diesel-Elec.	50,000	150	January	August	G. E.-Cummins
	7	B-B	Switching	Diesel-Elec.	190,000	660	January	December	G. E.-Cooper-Bess.
Dravo Corp.	1	B	Switching	D-Hyd.	80,000	275	October	June '52	Whit.-Cummins
Duke Power Co.	1	B-B	Switching	Diesel-Elec.	50,000	150	February	June	G. E.-Cummins
E. I. du Pont de Nemours & Co.	4	B-B	Switching	Diesel-Elec.	160,000	550	March	August	G. E.-Cummins
Electrical Energy Co.	3	B-B	Switching	Diesel-Elec.	88,000	400	1951	November	G. E.-Cater.
Ethyl Corp.	1	B-B	Switching	Diesel-Elec.	90,000	300	February	November	G. E.-Cummins
Empire District Electric Co.	1	B	Switching	D-Hyd.	80,000	243	October	June '52	Whit.-Cummins
France Stone Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	June	Apr. '52	G. E.-Cummins
General Electric Co.	1	B	Switching	Diesel-Elec.	50,000	150	September	November	G. E.-Cummins
Georgia Power Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	July	Apr. '52	G. E.-Cummins
Granite City Steel Co.	2	B-B	Switching	Diesel-Elec.	246,000	1,200	March	.....	Electro-Motive
	4	B	Switching	D-Hyd.	70,000	225	March	November	Whit.-Cummins
	2	B	Switching	D-Hyd.	70,000	225	April	December	Whit.-Cummins
Great Lakes Steel Corp.	1	B-B	Switching	Diesel-Elec.	246,000	1,200	March	.....	Electro-Motive
Greenville Manufacturing Works	1	B-B	Switching	Diesel-Elec.	90,000	300	June	Apr. '52	G. E.-Cummins
Gulf Power	1	B-B	Switching	Diesel-Elec.	160,000	550	July	Apr. '52	G. E.-Cummins
Hartford Electric	1	B-B	Switching	Diesel-Elec.	50,000	150	August	Apr. '52	G. E.-Cummins
Hooker Electrochemical Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	October	Mar. '52	G. E.-Cummins
Ideal Cement Co.	1	B	Switching	Diesel-Elec.	50,000	150	April	August	Whit.-Cummins
	1	B	Switching	Diesel-Elec.	50,000	150	July	July	G. E.-Cummins
Inland Steel Co.	1	B-B	Switching	Diesel-Elec.	197,000	600	February	.....	Electro-Motive
Inspiration Consolidated Copper Co.	2	B-B	Switching	Diesel-Elec.	140,000	600	January	September	G. E.-Cooper-Bess.
Interlake Iron Corp.	1	B-B	Switching	Diesel-Elec.	190,000	600	March	Feb. '52	G. E.-Cooper-Bess.
International Harvester Co.	1	B-B	Switching	Diesel-Elec.	100,000	300	December	Aug. '52	G. E.-Cummins
Jones & Laughlin Steel Corp.	2	B-B	Switching	Diesel-Elec.	.....	550	Aug.-Sept.	1952	G. E.-Cummins
Kaiser Steel Corp.	2	C-C	Rd.-Sw.	Diesel-Elec.	325,500	1,600	August	May '52	Baldwin-West.
Kaiser Industries	2	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,200	May	Feb. '52	Baldwin-West.
	1	B-B	Switching	Diesel-Elec.	90,000	300	November	June '52	G. E.-Cummins
Kansas City Power & Light	1	B	Switching	Diesel-Elec.	50,000	150	January	May	G. E.-Cummins
Kentucky Utilities	1	B-B	Switching	Diesel-Elec.	90,000	300	March	May	G. E.-Cummins
Keokuk Electrometallurgical	2	B-B	Switching	Diesel-Elec.	100,000	300	September	May	G. E.-Cummins
Keystone Steel & Wire Corp.	1	B	Switching	D-Hyd.	40,000	200	March	November	Whit.-Cummins
	1	B-B	Switching	Diesel-Elec.	130,000	400	May	Mar. '52	Whit.-Cummins
Koppers Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	June	Mar. '52	G. E.-Cummins
Laclede Steel Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	June	Mar. '52	G. E.-Cummins
Lone Star Steel Co.	1	B-B	Switching	Diesel-Elec.	160,000	550	June	Feb. '52	G. E.-Cummins
McNary Dam Contractors	4	B	Switching	Diesel-Elec.	50,000	150	May	October	G. E.-Cummins
Maryland Slag Co.	1	B-B	Switching	Diesel-Elec.	100,000	380	March	May	Whit.-Hercules
Medford Corp.	1	B-B	Switching	Diesel-Elec.	198,500	800	April	November	Baldwin-West.
Merry Bros. Brick & Tile Co.	1	B	Switching	Diesel-Elec.	50,000	150	March	April	G. E.-Cummins
Mifflin Sand Co.	1	B	Switching	D.-Hyd.	40,000	225	July	Mar. '52	Whit.-Cater.
Milwaukee Solvay Coke Co.	1	B-B	Switching	Diesel-Elec.	130,000	550	May	Feb. '52	G. E.-Cummins
Minn. Power & Light	1	B-B	Switching	Diesel-Elec.	90,000	300	October	May '52	G. E.-Cummins
Murray Corp.	1	B	Switching	Diesel-Elec.	50,000	150	April	April	G. E.-Cummins
National Lead Co.	1	B	Switching	Diesel-Elec.	50,000	150	February	June	G. E.-Cummins
New York & Pennsylvania Co.	2	B	Switching	Diesel-Elec.	50,000	150	Feb.-Oct.	1951-52	G. E.-Cummins
Niagara Mohawk Power Corp.	1	B-B	Switching	Diesel-Elec.	100,000	300	July	May '52	G. E.-Cummins
Oliver Iron Mining Co.	3	B-B	Switching	Diesel-Elec.	248,000	1,200	March	.....	Electro-Motive
	5	2(B-B)	Transfer	Diesel-Elec.	465,000	1,600	March	.....	Electro-Motive
	6	B-B	Switching	Diesel-Elec.	198,500	800	June	October	Baldwin-West.
Omaha Public Power	1	B-B	Switching	Diesel-Elec.	90,000	300	December	July '52	G. E.-Cummins
Penn Electric Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	April	May '52	G. E.-Cummins
Philadelphia Electric Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	April	October	Whit.-Cummins
	1	B-B	Switching	Diesel-Elec.	90,000	300	June	Apr. '52	Whit.-Cummins
	1	B-B	Switching	Diesel-Elec.	130,000	550	May	July	G. E.-Cummins
Philadelphia Gas Co.	1	B	Switching	Diesel-Elec.	50,000	150	May	November	G. E.-Cummins
Pittsburgh & Conneaut Dock Co.	5	B	Pusher	Electric	80,000	300	April	Mar. '52	General Electric
Pittsburgh Coke & Chemical Co.	1	B-B	Switching	Diesel-Elec.	231,000	800	June	.....	Electro-Motive
Pittsburgh Metallurgical Co.	2	B	Switching	D-Hyd.	80,000	225	April	September	Whit.-Cummins
Pittsburgh Plate Glass Co.	1	B-B	Switching	Diesel-Elec.	160,000	550	October	July '52	Whit.-Cummins
Pittsburgh Steel Co.	3	B-B	Switching	Diesel-Elec.	.....	1,200	1951	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	228,000	800	July	.....	Electro-Motive
Poplar Ridge Coal Co.	1	B-B	Switching	Diesel-Elec.	231,000	800	May	.....	Electro-Motive
Public Service Co. of Indiana	1	B-B	Switching	Diesel-Elec.	130,000	550	February	Feb. '52	G. E.-Cummins
Public Service Co. of Northern Illinois	1	B-B	Switching	Diesel-Elec.	196,000	600	November	.....	Electro-Motive
Pyrites Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	March	Mar. '52	G. E.-Cummins
Republic Steel Corp.	1	B-B	Switching	Diesel-Elec.	246,000	1,200	March	.....	Electro-Motive
	4	B-B	Switching	Diesel-Elec.	197,000	600	1951	.....	Electro-Motive
Semet-Solvay Co.	1	B	Switching	Diesel-Elec.	50,000	150	April	Apr. '52	G. E.-Cummins
Sharon Steel Corp.	8	B-B	Switching	Diesel-Elec.	198,500	800	February	August	Baldwin-West.
	1	B-B	Switching	Diesel-Elec.	240,000	1,200	February	July	Baldwin-West.
	8	B-B	Switching	Diesel-Elec.	160,000	550	March	Feb.-Mar. '52	G. E.-Cummins
Solvay Process Division, Allied Chem. & Dye Corp.	1	B-B	Switching	Diesel-Elec.	160,000	550	July	Apr. '52	G. E.-Cummins
Sloss Sheffield Steel & Iron Co.	4	B-B	Switching	Diesel-Elec.	198,500	800	August	Mar. '52	Baldwin-West.
South Carolina Gas & Electric	1	B-B	Switching	Diesel-Elec.	90,000	300	November	June '52	G. E.-Cummins
South Carolina Port Authority	1	B-B	Switching	Diesel-Elec.	88,000	400	March	July	G. E.-Cater.
Southern Clays	3	B-B	Switching	Diesel-Elec.	90,000	300	Feb.-June	December	G. E.-Cummins
Southwest Steel Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	February	November	G. E.-Cummins
Spaulding Pulp & Paper Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	August	May '52	G. E.-Cummins
Stanley Works	1	B	Switching	Diesel-Elec.	50,000	150	July	Apr. '52	G. E.-Cummins
Tennessee Coal, Iron & R. R. Co.	1	B-B	Switching	Diesel-Elec.	230,000	800	July	.....	Electro-Motive
	1	B-B	Switching	Diesel-Elec.	160,000	550	December	June '52	G. E.-Cummins
Tennessee Product & Chemical Corp.	1	B	Switching	Diesel-Elec.	50,000	150	February	June	G. E.-Cummins
Tennessee Valley Authority	3	B-B	Switching	Diesel-Elec.	240,000	1,200	1951	1951-52	Baldwin-West.
	2	B-B	Switching	Diesel-Elec.	160,000	550	Mar.-Sept.	1951-52	G. E.-Cummins
Transportation Corps.	41	B-B	Switching	Diesel-Elec.	208,000	800	April	.....	Electro-Motive
	20	B-B	Switching	Diesel-Elec.	237,000	1,500	July	.....	Electro-Motive

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Transportation Corps. (Cont.)	13	C-C	Switching	Diesel-Elec.	242,000	1,500	June	.....	Electro-Motive
	3	B-B	Switching	Diesel-Elec.	240,000	1,200	April	September	Baldwin-West.
	2	B	Switching	Diesel-Elec.	50,000	150	June	August	G. E.-Cummins
	19	B-B	Switching	Diesel-Elec.	160,000	550	June	1951-52	G. E.-Cummins
	1	B-B	Switching	Diesel-Elec.	90,000	300	June	September	G. E.-Cummins
	50	B-B	Switching	Diesel-Elec.	160,000	550	July	1952	G. E.-Cummins
	14	B-B	Switching	Diesel-Elec.	88,000	400	December	1952	G. E.-Cater.
	3	B-B	Switching	Diesel-Elec.	50,000	150	December	1952	G. E.-Cummins
	24	B-B	Switching	Diesel-Elec.	160,000	550	December	1952	G. E.-Cummins
United States Potash Co	1	B-B	Switching	Diesel-Elec.	140,000	600	May	Apr. '52	G. E.-Cooper-Bess.
	1	B-B	Mine	Diesel-Elec.	80,000	550	September	Jan. '53	G. E.-Cummins
United States Steel Co	5	B-B	Switching	Diesel-Elec.	240,000	1,200	April	September	Baldwin-West.
	3	B-B	Switching	Diesel-Elec.	240,000	1,200	September	Feb. '52	Baldwin-West.
	2	B-B	Switching	Diesel-Elec.	240,000	1,200	September	Jan. '52	Baldwin-West.
	8	B-B	Switching	Diesel-Elec.	246,000	1,200	April	1951-52	Fairbanks, Morse
Vanadium Corp	2	B-B	Switching	Diesel-Elec.	160,000	550	March	Mar. '52	G. E.-Cummins
Veach-May-Wilson	1	B-B	Switching	Diesel-Elec.	90,000	300	February	September	G. E.-Cummins
Victor Chemical Works	1	B-B	Switching	Diesel-Elec.	90,000	300	March	November	G. E.-Cummins
Virginia Limestone	1	B-B	Switching	Diesel-Elec.	90,000	300	May	August	G. E.-Cummins
Washburn Wire Co.	1	B-B	Switching	Diesel-Elec.	90,000	300	June	December	G. E.-Cummins
Weirton Steel Co.	2	B	Switching	Diesel-Elec.	50,000	150	Apr.-Oct.	1952	G. E.-Cummins
Western Massachusetts Electric	1	B	Switching	Diesel-Elec.	50,000	150	January	May	G. E.-Cummins
Weyerhaeuser Timber Co.	2	B-B	Switching	Diesel-Elec.	247,000	1,200	January	.....	Electro-Motive
	2	B-B	Switching	Diesel-Elec.	198,500	800	January	June	Baldwin-West.
Willputte Coal & Coke	1	B	Switching	Electric	70,000	150	April	May '52	General Electric
	1	B-B	Switching	Diesel-Elec.	190,000	660	August	Jan.'52	G. E.-Cooper-Bess.
Wisconsin Steel Co.	1	B-B	Switching	Diesel-Elec.	100,000	300	November	Aug. '52	G. E.-Cummins
Worthington Pump & Machinery Corp.	1	B-B	Switching	Diesel-Elec.	90,000	300	March	Mar. '52	G. E.-Cummins
Woodward Iron Co.	1	B-B	Switching	Diesel-Elec.	230,000	800	November	.....	Electro-Motive
Youngstown Sheet & Tube Co.	5	B-B	Switching	Diesel-Elec.	198,500	800	March-June	1951	Baldwin-West.
	2	B-B	Switching	Diesel-Elec.	50,000	165	July	Feb. '52	Whit.-Cummins
	2	B-B	Switching	Diesel-Elec.	160,000	550	July	Sept. '52	G. E.-Cummins

For Export

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Abitibi Power & Paper Co. (Canada)	1	B-B	Switching	Diesel-Elec.	160,000	550	March	Mar. '52	G. E.-Cummins
Algoma Steel Corp. (Canada)	3	B-B	Switching	Diesel-Elec.	160,000	550	1951	1951-52	G. E.-Cummins
Aluminum Co. of America (Surinam) (Brazil)	1	B-B	Switching	Diesel-Elec.	70,000	380	July	Apr. '52	Whit.-Hercules
	2	B	Switching	Diesel-Elec.	50,000	150	September	Apr. '52	G. E.-Cummins
American Cyanamid Co. (British Guiana)	1	B	Switching	D-Hyd.	30,000	130	February	November	Whit.-Hercules
American Smelting & Refining Co. (Mexico)	2	B-B	Switching	Diesel-Elec.	240,000	1,200	September	Apr. '52	Baldwin-West.
	2	B-B	Switching	Diesel-Elec.	90,000	300	January	September	G. E.-Cummins
Arabian Oil	1	B-B	Switching	Diesel-Elec.	88,000	400	February	August	G. E.-Cater.
Argentine State Rys.	25	C-C	Road	Diesel-Elec.	211,200	1,400	January	1952-53	American-G. E.
	5	C-C	Road	Diesel-Elec.	188,000	1,400	January	1952	American-G. E.
Asbestos Corp. (Canada)	1	B-B	Switching	Diesel-Elec.	130,000	550	February	September	G. E.-Cummins
Bell Asbestos (Canada)	1	B-B	Switching	Diesel-Elec.	90,000	300	March	March '52	G. E.-Cummins
Braden Copper, Chile, S. A.	6	B-B	Switching	Diesel-Elec.	120,000	650	January	December	Whit.-Sterling
Brampton Paper & Pulp (Canada)	1	B-B	Switching	Diesel-Elec.	130,000	550	October	April '52	G. E.-Cummins
	1	B-B	Switching	Diesel-Elec.	130,000	550	December	Sept. '52	G. E.-Cummins
Canada Crushed Stone	1	B	Switching	Diesel-Elec.	50,000	150	October	Apr. '52	G. E.-Cummins
Canadian Furnace	1	B-B	Switching	Diesel-Elec.	90,000	300	August	May '52	G. E.-Cummins
Canadian Industries	1	B	Switching	D-Hyd.	50,000	190	June	Feb. '52	Whit.-Hercules
Canadian Refractories	1	B-B	Switching	Diesel-Elec.	130,000	550	February	February	G. E.-Cummins
Central of Brazil	40	C-C	Road	Diesel-Elec.	230,000	1,600	December	1953	American-G. E.
	20	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	December	.....	Baldwin-West.
	12	C-C	Gen. Purpose	Diesel-Elec.	325,000	1,600	December	.....	Baldwin-West.
Chilean Nitrate Sales	1	A1A-A1A	Switching	Diesel-Elec.	208,000	1,350	July	Mar. '52	Whit.-Superior
Chiriqui Land (Panama)	3	B-B	Switching	Diesel-Elec.	100,000	550	March	May '52	G. E.-Cater.
Cia Docas de Santos (Brazil)	2	B-B	Switching	Diesel-Elec.	90,000	300	January	December	G. E.-Cummins
Cimento Aratu (Brazil)	1	B	Switching	Diesel-Elec.	50,000	150	May	November	G. E.-Cummins
Consolidated Mining & Smelting Co. (Canada)	1	B-B	Mine	Electric	80,000	380	June	Mar. '52	General Electric
Cuba	2	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	December	Sept. '52	G. E.-Cooper-Bess.
Cuban Sugar Mills Corp.	1	B-B	Switching	Diesel-Elec.	130,000	550	March	December	G. E.-Cummins
	2	B-B	Switching	Diesel-Elec.	88,000	400	September	December	G. E.-Cater
	2	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	September	1951-52	G. E.-Cooper-Bess.
	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	October	Feb. '52	G. E.-Cooper-Bess.
	1	B	Switching	Diesel-Elec.	50,000	150	November	July '52	G. E.-Cummins
	2	B-B	Switching	Diesel-Elec.	90,000	300	November	June '52	G. E.-Cummins
	2	B-B	Switching	Diesel-Elec.	88,000	400	November	Aug. '52	G. E.-Cater.
	1	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	November	Feb. '52	G. E.-Cooper-Bess.
Despasia Sulphur (Canada)	1	B-B	Switching	Diesel-Elec.	160,000	550	April	April '52	G. E.-Cummins
Dominion Iron & Steel (Canada)	3	B-B	Switching	Diesel-Elec.	160,000	550	Feb.-Sept.	1951-52	G. E.-Cummins
Dominican Sales (Cuba)	3	B-B	Switching	Diesel-Elec.	88,000	400	July-Aug.	1951-52	G. E.-Cater.
E. B. Eddy Co. (Canada)	1	B	Switching	Diesel-Elec.	50,000	150	October	November	G. E.-Cummins
Electro Metallurgical Co. (Canada)	2	B-B	Switching	Diesel-Elec.	190,000	660	January	June	G. E.-Cooper-Bess.
Falconbridge Nickel Mines (Canada)	1	B-B	Switching	Diesel-Elec.	160,000	550	March	December	G. E.-Cummins
Ford Motor Co. (Brazil)	1	B	Switching	D-Mech.	50,000	190	May	Feb. '52	Whit.-Hercules
France	2	B	Switching	Diesel-Elec.	88,000	300	Apr.-Aug.	Apr. '52	G. E.-Cummins
French North African Ry. (Morocco)	3	....	Rd.-Sw.	Diesel-Elec.	259,999	1,500	August	1952	Baldwin-West.
Granada Co. (Panama)	2	B-B	Switching	Diesel-Elec.	100,000	550	March	May	G. E.-Cater.
Hojalata y Lamina (Mexico)	1	B-B	Switching	Diesel-Elec.	90,000	300	June	Mar. '52	G. E.-Cummins
Imperial Oil (Canada)	1	B	Switching	Diesel-Elec.	70,000	275	March	Jan. '52	G. E.-Cummins
Indonesian State Rys.	27	C+2+C	Road	Diesel-Elec.	210,000	1,600	November	1953	American-G. E.
Johnsons (Canada)	1	B-B	Switching	Diesel-Elec.	130,000	550	March	Feb. '52	G. E.-Cummins
Liberia Mining Co	1	B-B	Switching	Diesel-Elec.	150,000	675	March	December	Whit.-Superior
Lone Star Cement Corp. (Brazil)	1	B+B	Switching	Diesel-Elec.	94,000	400	January	Jan. '52	G. E.-Cater.
Mogyana Ry. (Brazil)	12	C+C	Rd.-Sw.	Diesel-Elec.	140,000	660	July	1952	G. E.-Cooper-Bess.
National Steel (Brazil)	3	B-B	Switching	Diesel-Elec.	200,000	660	September	May '52	G. E.-Cooper-Bess.
	2	B-B	Switching	Diesel-Elec.	50,000	150	July	Mar. '52	G. E.-Cummins
North American Cyanamid (Canada)	1	B-B	Switching	Diesel-Elec.	130,000	550	March	Feb. '52	G. E.-Cummins
S. A. D'Ougree Marihaye (Belgium)	1	B	Switching	D-Hyd.	28,000	130	January	July	Whit.-Hercules
Mexico North-Western	1	B-B	Switching	Diesel-Elec.	196,000	600	February	.....	Electro-Motive
National of Mexico	8	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,500	September	.....	Electro-Motive
	36	B-B	Road	Diesel-Elec.	235,000	1,500	March	.....	Electro-Motive
	10	B-B	Road	Diesel-Elec.	231,000	1,500	September	.....	Electro-Motive
	2	2(B-B)	Passenger	Diesel-Elec.	.....	3,000	September	.....	Electro-Motive.

An American Locomotive-General Electric diesel unit pulling a New York, New Haven & Hartford passenger train out of South Station, Boston

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
North Western (Pakistan)	9	....	Rd.-Sw.	Diesel-Elec.	.....	1,600	July	1951-52	American-G. E.
	14	....	Road	Diesel-Elec.	.....	1,600	July	1951-52	American-G. E.
Orinoco Mining Co. (Venezuela)	12	C-C	Rd.-Sw.	Diesel-Elec.	325,000	1,600	1951	1952	Baldwin-West.
Portland Cement (Brazil)	2	B	Switching	Diesel-Elec.	50,000	150	September	Apr. '52	G. E.-Cummins
(Mexico)	1	B-B	Switching	Diesel-Elec.	140,000	600	May	November	G. E.-Cooper-Bess.
Portuguese State Rys.	12	A1A-A1A	Switching	Diesel-Elec.	208,000	1,350	July	Mar. '52	Whit.-Superior
Quebec, North Shore & Labrador	2	B-B	Rd.-Sw.	Diesel-Elec.	140,000	600	September	Jan. '52	G. E.-Cooper-Bess.
Queensland Govt. Rys.(Australia)	10	C+C	Rd.-Sw.	Diesel-Elec.	199,360	1,000	January	1952	G. E.-Cooper-Bess.
St. Johns Paper & Pulp (Canada)	1	B	Switching	Diesel-Elec.	50,000	150	September	April '52	G. E.-Cummins
Sherritt Gordon Mines (Canada)	1	B	Switching	Diesel-Elec.	50,000	150	November	Apr. '52	G. E.-Cummins
South African Rys.	1	B	Switching	Diesel-Elec.	50,000	150	October	June '52	G. E.-Cummins
Steel Co. of Canada	1	B-B	Switching	Diesel-Elec.	160,000	550	April	Apr. '52	G. E.-Cummins

Canada

Purchaser	No.	Wheel Arrangement	Service	Type	Weight Lb.	Horsepower	Date of Order	Date of Delivery	Builder Locomotive Builder Electrical Equipment Engine Builder
Algoma Central & Hudson Bay	5	B-B	Freight	Diesel-Elec.	257,000	1,500	January	Jan.-Apr.	G. M. Diesel, Ltd.
	7	B-B	Freight	Diesel-Elec.	257,000	1,500	May	Aug.-Nov.	G. M. Diesel, Ltd.
	7	B-B	Freight	Diesel-Elec.	257,000	1,500	November	Nov.-Mar.	G. M. Diesel, Ltd.
	1	B-B	Switching	Diesel-Elec.	230,000	800	November	December	G. M. Diesel, Ltd.
Alma & Jonquieres	1	B-B	Switching	Diesel-Elec.	230,000	1,000	May	July	Montreal Locomotive
Canada & Gulf Terminal	1	B-B	Switching	Diesel-Elec.	230,000	800	March	November	G. M. Diesel, Ltd.
Canadian National	12	B-B	Switching	Diesel-Elec.	199,000	660	February	.....	Montreal Locomotive
	10	B-B	Switching	Diesel-Elec.	230,000	1,000	September	.....	Montreal Locomotive
	10	B-B	Freight	Diesel-Elec.	240,000	1,600	September	.....	Montreal Locomotive
	6	B-B	Freight	Diesel-Elec.	.....	1,600	October	Feb. '52	Canadian Locomotive
	12	B-B	Switching	Diesel-Elec.	230,000	800	March	1951	G. M. Diesel, Ltd.
	3	C-C	Freight	Diesel-Elec.	248,000	1,200	July	Jan. '53	G. M. Diesel, Ltd.
	8	B-B	Freight	Diesel-Elec.	230,000	1,500	October	Feb. '52	G. M. Diesel, Ltd.
	10	B-B	Switching	Diesel-Elec.	248,000	1,200	October	Jan. '52	G. M. Diesel, Ltd.
Canadian Pacific	12	B-B	.....	Diesel-Elec.	260,000	1,600	August	1952	Canadian Locomotive
	6	B-B	Switching	Diesel-Elec.	.....	800	January	1952	G. M. Diesel, Ltd.
	18	...	.....	Diesel-Elec.	.....	1,500	.....	.....	G. M. Diesel, Ltd.
	20	....	.....	Diesel-Elec.	.....	1,500	1951	.....	G. M. Diesel, Ltd.
	18	B-B	Switching	Diesel-Elec.	.....	660	1951	1951	Montreal Locomotive
	10	B-B	Freight	Diesel-Elec.	.....	1,600	1951	.....	Montreal Locomotive
	6	B-B	Switching	Diesel-Elec.	.....	1,000	1951	.....	Montreal Locomotive
Essex Terminal	1	B-B	Switching	Diesel-Elec.	230,000	800	January	August	G. M. Diesel, Ltd.
National Harbours Board	8	B-B	Switching	Diesel-Elec.	199,000	600	February	May-Oct.	Montreal Locomotive
Ontario Northland	8	B-B	Rd.-Sw.	Diesel-Elec.	250,000	1,600	March	November	Montreal Locomotive
Quebec Iron & Titanium Corp.	1	B-B	Switching	Diesel-Elec.	230,000	1,000	April	May	Montreal Locomotive
Quebec, North Shore & Labrador	2	B-B	Rd.-Sw.	Diesel-Elec.	240,000	1,600	January	July	Montreal Locomotive
	2	B-B	Rd.-Sw.	Diesel-Elec.	248,000	1,500	January	July	G. M. Diesel, Ltd.
Steel Co. of Canada	3	B-B	Switching	Diesel-Elec.	230,000	800	April	December	G. M. Diesel, Ltd.

One of the 16 commuter cars built by the Budd Company for the New York, Susquehanna & Western and delivered during 1951

This club-lounge car was ordered by the Atchison, Topeka & Santa Fe from the Pullman-Standard Car Manufacturing Company

268 Passenger-Train Cars Ordered in 1951

By C. B. PECK
Mechanical Editor
and FRED C. MILES
Associate Editor

Orders for 261 passenger-train cars for domestic service, and 7 for export, were placed in the United States in 1951, according to the American Railway Car Institute. Among the cars ordered for domestic use were 7 rail motor cars, 7 of which also were ordered for export. Of the passenger-train cars ordered in this country last year, all are listed by purchaser in an accompanying table. Two additional tables offer analyses and summaries of pasenger-train cars delivered for domestic service from 1935 through 1950 and ordered for domestic use from 1920 through 1951. The detailed list of cars ordered last year was compiled by *Railway Age* from reports by purchasers which were checked and amplified with information received from car builders through the cooperation and assistance of the A.R.C.I.

While the year has been a quiet one so far as new passenger-car business is concerned, it has seen the advance of a project which may well produce a marked effect on the economics of passenger-car purchases when completion of the present defense preparations permit a resumption of passenger-car building.

As of August 1, 1951, the A.R.C.I. issued a report which has been widely distributed announcing completion of the first part of a program of standardization of passenger-car designs undertaken at the request of a number of railway executives. This phase of the program pertains to the development of standard floor plans for coaches, diners and baggage cars, and the report indicates that the plans have been formally approved by the board of directors of the Association of American Railroads, by its Mechanical Division, and by a special operating committee.

Seven basic car types have been worked out which can be adapted to provide 19 standard floor plans. These include nine plans for coaches and coach combinations, a coach-coffee-shop, a diner and a diner lounge, and two baggage-dormitory combinations. There are two arrangements of 73-ft. 10-in. baggage cars and three of 85-ft. baggage cars, including plain baggage and mail-baggage combinations. The standards include seat spacings for coaches, window-glass sizes, lavatories, diaphragms, and certain electrical details, so that installation dimensions will be interchangeable.

As the next step in the program the institute proposes to make similar studies and recommendations for standardization of sleeping and commuter cars.

Among advantages which adherence to the proposed standards in the purchase of passenger cars would permit are lower first costs resulting from reductions in engineering expense, in material costs and in labor expense because of the possibility of employing mass production methods. Other advantages will accrue from reduction in stores stock of parts and materials included among the standards.

The observation end (right), of the six observation - lounge cars built by the American Car & Foundry Co. for the reequipped "Empire Builder" of the Great Northern, has seating capacity for 18 persons

Number and Classification of Passenger-Train Cars Ordered for Domestic Use (Carbuilder and Railroad Shops)

Year	Coach	Coach Comb.	Bag. & Exp.	Exp., Refrig. & Milk	Sleeping & Comb.	Parlor, Club, etc.	Dining	Postal & Comb.	Other	Interurban & M. U.	Self. Prop.	Troop Hosp.	Troop Sleep.	Troop Kitch.	Total
1951	50	14	10	0	66	26	19	3	65	0	7	0	0	1	261
1950	21	0	38	0	1	0	0	10	1	0	31	0	0	0	102
1949	46	0	6	0	30	6	14	6	1	0	0	0	0	0	109
1948	143	0	51	0	156	20	25	10	1	100	0	0	0	0	506
1947	132	0	22	0	72	36	19	29	4	0	2	0	0	0	316
1946	311	40	22	0	587	53	143	46	28	8	0	0	0	0	1,238
1945	296	17	134	25	510	84	98	54	67	8	0	100	1,200	400	2,993
1944	461	36	20	0	26	16	53	12	0	1	0	100	0	0	725
1943	14	2	3	0	0	0	4	12	0	0	10	10	1,200	440	1,685
1942	0	1	2	0	0	0	0	0	0	1	0	0	0	30	34
1941	164	13	69	0	197	16	36	46	0	1	0	7	0	0	549
1940	220	26	8	0	53	6	48	13	2	3	0	0	0	0	379
1939	97	20	9	0	125	18	38	12	0	2	0	0	0	0	321
1938	85	28	42	0	86	10	15	10	0	0	2	0	0	0	278
1937	136	23	58	110	171	18	37	8	6	0	0	0	0	0	567
1936	294	36	35	0	5	26	44	10	1	0	0	0	0	0	451
1935	14	16	7	55	18	6	10	7	0	0	0	0	0	0	133
1934	317	38	23	0	8	2	6	20	10	0	5	0	0	0	429
1933	0	2	0	0	3	6	0	1	0	6	1	0	0	0	19
1932	2	1	4	2	1	0	0	4	0	30	0	0	0	0	44
1931	1	10	14	0	1	0	0	9	1	0	1	0	0	0	37
1930	232	56	84	50	68	48	19	43	1	85	14	0	0	0	700
1929	390	98	351	505	490	79	103	184	15	160	8	0	0	0	2,383
1928	436	80	417	930	226	26	64	95	17	50	52	0	0	0	2,393
1927	782	171	271	45	60	80	59	182	16	11	16	0	0	0	1,693
1926	653	115	359	85	446	93	135	77	14	15	68	0	0	0	2,060
1925	663	115	554	90	427	71	109	129	52	0	64	0	0	0	2,274
1924	644	142	372	372	629	75	131	114	9	264	23	0	0	0	2,775
1923	487	49	231	673	374	88	86	124	15	104	1	0	0	0	2,232
1922	1,133	132	318	256	254	42	77	145	9	100	18	0	0	0	2,484
1921	77	11	3	50	100	0	16	8	0	22	0	0	0	0	287
1920	496	28	354	40	468	1	38	37	2	127	0	0	0	0	1,591

Source: American Railway Car Institute.

Number and Classification of Passenger-Train Cars Delivered for Domestic Use (Carbuilder and Railroad Shops)

Year	Coach	Coach Comb.	Bag. & Exp. #	Sleeping & Comb.	Parlor, Club, etc.	Dining	Postal & Comb.	Other	Troop Hosp.	Troop Sleep.	Troop Kitch.	Total
1950	368	11	60	380	33	61	43	8	0	0	0	964
1949	190	9	16	517	36	125	27	13	0	0	0	933
1948	235	21	25	368	104	115	20	3	0	0	0	891
1947	412	57	119	67	16	117	72	1	0	0	0	861
1946	356	9	59	2	12	9	11	1	0	822	56	1,337
1945	3	0	13	0	0	0	10	0	193	368	344	931
1944	0	0	3	0	0	0	5	0	17	558	420	1,003
1943	0	0	0	3	0	0	4	0	0	652	26	685
1942	111	2	82	157	2	18	22	0	0	0	24	418
1941	201	10	2	49	22	35	20	3	7	0	0	349
1940	69	10	19	117	8	20	14	0	0	0	0	257
1939	98	12	29	80	18	37	2	0	0	0	0	276
1938	136	37	38	156	27	33	5	2	0	0	0	434
1937	299	56	71	33	20	37	10	103	0	0	0	629
1936	84	19	33	27	15	9	2	2	0	0	0	191
1935	107	25	0	0	14	2	1	56	0	0	0	205

#Including express-refrigerator cars.
Source: American Railway Car Institute.

Passenger-train cars built in this country for Brazil's Paulista Railways

For Service in the United States

Purchaser	No.	Class	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Date of Order	Date of Delivery	Builder
Chicago & Eastern Illinois	4	Sleeping	85	0	Steel	..	.....	November	1953	Pullman-Standard
Chicago & North Western	6	Coach	82	7	H. T. Steel	44	142,570	August	.....	Amer. Car & Fdy.
	2	Baggage	82	7	H. T. Steel	..	133,426	August	.....	Amer. Car & Fdy.
Chicago, Burlington & Quincy	1	Bag.-Mail	85	0	S. Steel	..	103,300	March	.....	Budd
	4	Coach	85	0	S. Steel	50	129,300	March	.....	Budd
	2	Dome-Coach-Buffet	..	..	S. Steel	71	162,000	March	.....	Budd
	3	Dining	..	..	S. Steel	48	155,000	March	.....	Budd
	2	Dome-Parlor-Obs.	..	..	S. Steel	65	151,000	March	.....	Budd
	8	Sleeping	..	..	S. Steel	22	144,000	March	.....	Budd
	6	Sleeping	..	..	S. Steel	26	143,600	March	.....	Budd
	1	Sleeping	..	..	S. Steel	32	138,000	March	.....	Budd
	1	Dome-Room-Obs.	..	..	S. Steel	58	158,500	March	.....	Budd
	6	Sleeping	..	..	S. Steel	22	145,000	March	.....	Budd
Chicago, Milwaukee, St. Paul & Pacific	10	Dome-Lnge.	85	0	Steel	68	.....	October	1952	Pullman-Standard
Louisville & Nashville	22	Sleeping	85	0	Steel	..	150,237	November	1953	Pullman-Standard
Nashville, Chattanooga & St. Louis	3	Sleeping	85	0	Steel	..	.....	November	1953	Pullman-Standard
Pennsylvania	32	Coach-Lnge.	85	0	S. Steel	60	122,000	January	December	Budd
	4	Coffee Shop	85	0	S. Steel	44	142,400	January	Feb. '52	Budd
	2	Dining	85	0	S. Steel	68	126,000	January	Feb. '52	Budd
	2	Kitchen-Bar-Lnge.	85	0	S. Steel	21	149,200	January	Jan. '52	Budd
	2	Kitchen-Dining	85	0	S. Steel	48	142,700	January	Feb. '52	Budd
	16	Parlor	85	0	S. Steel	34	120,000	January	Jan. '52	Budd
	2	Conference room	85	0	S. Steel	35	130,400	January	Jan. '52	Budd
	2	Parlor-Bar-Lnge.-Tel.-Obs.	85	0	S. Steel	14	131,600	January	Jan. '52	Budd
	2	Parlor-Bar-Lnge.-Tel.-Obs.	85	0	S. Steel	18	129,500	January	Jan. '52	Budd
Transportation Corps	1	Ward	66	2	Steel	..	.....	June	.....	Pullman-Standard
	1	Personnel	66	2	Steel	..	.....	June	.....	Pullman-Standard
	1	Kitc.-Din.-Storage	66	2	Steel	..	.....	June	.....	Pullman-Standard
	63	Hospital	..	..	.....	..	.....	1951	.....	St. Louis Car
Union Pacific	8	Baggage	85	0	H. T. Steel	..	133,420	May	.....	Amer. Car & Fdy.
	2	R. P O.	85	0	H. T. Steel	..	142,330	May	.....	Amer. Car & Fdy.
	8	Chair	85	0	H. T. Steel	44	142,570	May	.....	Amer. Car & Fdy.
	4	Dining	85	0	H. T. Steel	48	146,000	May	.....	Amer. Car & Fdy.
	2	Dining	85	0	H. T. Steel	72	138,100	May	.....	Amer. Car & Fdy.
	2	Kitchen-Dorm.	85	0	H. T. Steel	..	150,530	May	.....	Amer. Car & Fdy.
	14	Sleeping	85	0	H. T. Steel	..	151,840	June	.....	Amer. Car & Fdy.
	2	Sleeping	85	0	H. T. Steel	..	153,310	June	.....	Amer. Car & Fdy.
Wabash	1	Planetarium	85	0	Steel	56	.....	February	June '52	Pullman-Standard

Rail Motor Cars

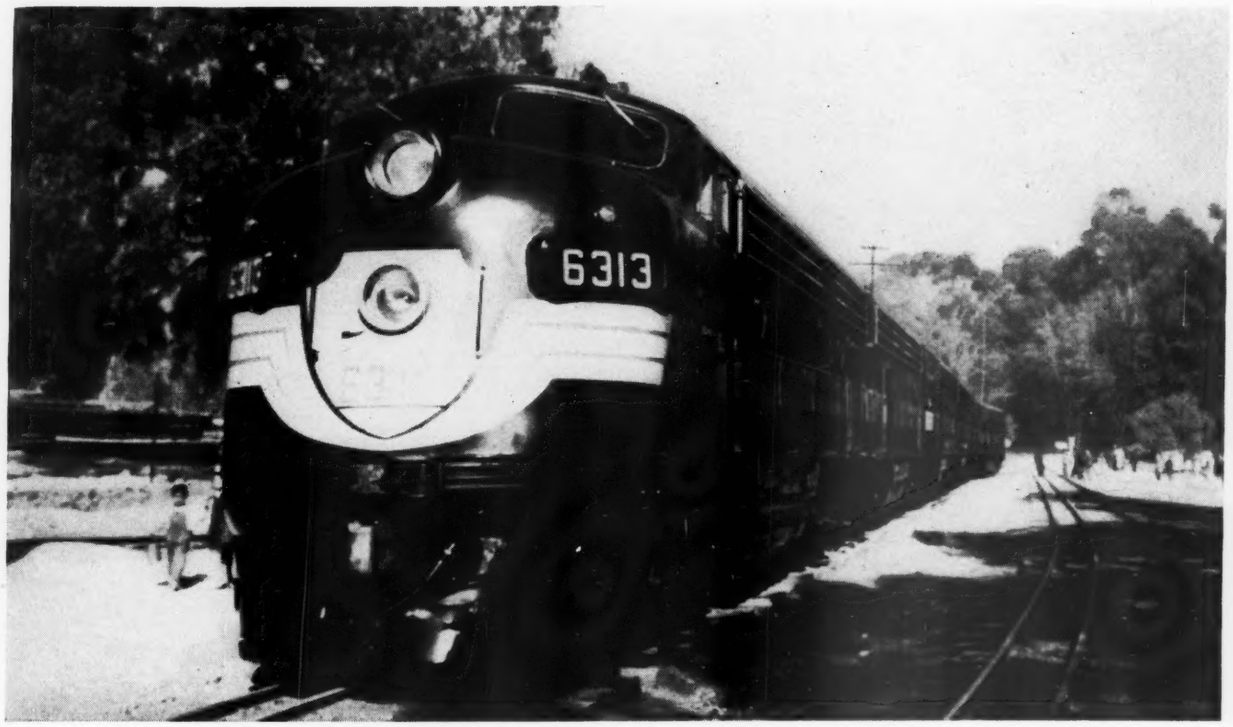
Purchaser	No.	Type of Power	Horsepower	Seating Capacity	Length of Baggage-Mail Room	Weight	Date of Order	Date of Delivery	Builder
Lehigh Valley	1	Rail Diesel Car	550	89	.....	112,800	February	August	Budd
	1	Rail Diesel Car	550	70	17 0	113,800	February	June	Budd
New York Central	1	Rail Diesel Car	550	49	Mail 16 10 Baggage 16 6	116,500	February	April	Budd
	1	Rail Diesel Car	550	70	Baggage 16 9	112,800	July	September	Budd
	2	Rail Diesel Car	550	89	.....	113,800	July	August	Budd
New York, New Haven & Hartford	1	Diesel-Elec.	200	45	.....	40,880	January	October	Mack Motor-G. E

Rail Motor Cars — Export

Arabia	1	Rail Diesel Car	550	71	17 0	113,800	May	July	Budd
	2	Rail Diesel Car	550	71	17 0	113,800	July	September	Budd
Cuba	4	Rail Diesel Car	550	90	.....	112,800	March	August	Budd

Canada

Purchaser	No.	Class	Length Ft.	Length In.	Construction	Seating Capacity	Weight	Date of Order	Date of Delivery	Builder
Canadian National	58	Baggage	76	4	Steel	..	126,000	April	.....	National Steel Car
	30	Baggage	76	4	Steel	..	126,000	July	.....	National Steel Car
Canadian Pacific	25	Exp.-Bag.	84	4	Steel	..	116,300	September	1952	Can. Car & Fdy.



MEXICAN RAILWAYS—

Showed Greater Gross, Less Net in 1951

Sharply increased expenses brought heavy deficit, despite highest gross revenues in history—Freight traffic down, passenger up —Substantial purchases of new rolling stock through Eximbank

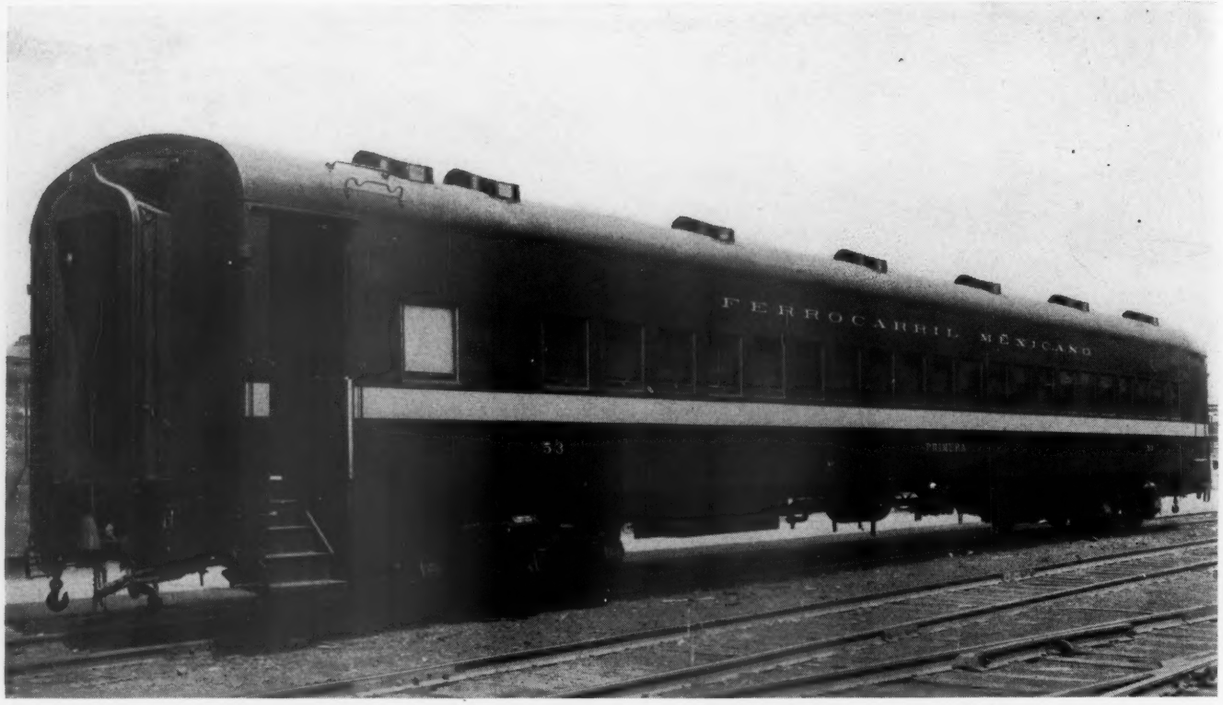
By J. M. OROZCO ESCOBOSA
Our Mexican Correspondent

Despite a substantial decrease in freight traffic, gross revenues of the National Railways of Mexico climbed, in the first eight months of 1951, to the highest rate yet attained, compared with the corresponding period of the year previous. Part of the income increase was due to higher rates; part came from a big increase in passenger traffic—which, paradoxically, was, in part, the reason for the decline in haulage of freight. The record gross could not, unfortunately, be carried down into the net earnings column; sharply increased expenses—owing partly to repair of damage from bad weather and partly to inflationary tendencies—produced a very greatly increased net deficit.

Gross earnings reached a new peak of almost 410 million pesos*, an increase of 8.4 per cent, compared with 1951. This improvement in total "take" was due mainly to the fact that a general 14.5 per cent increase in freight rates (which went into effect July 16, 1950) was in full force during the eight-month period of 1951, while it was applicable during only a portion of the comparable 1950 period. In addition, there was gained during 1951 the benefit of some slight change in the classification of commodities resulting in higher charges. The contribution of the change in freight rates to revenues during the period was some 24.4 million pesos.

The National Railways, with the guarantee of the Mexican government, obtained a loan of $55 million from the Export-Import Bank, after United States railroad men made a minute survey of the railroad situation in Mexico. This loan was used to purchase 36 50,000-lb. tractive force diesel-electric road locomotives—20 of which are

*The peso today is exchanged in the U.S. at 11.5 cents



A NUMBER OF NEW COACHES have been acquired from American builders since the close of World War II. This first class coach of the Mexican Railway was built by the Pullman-Standard Car Manufacturing Company

SELECTED OPERATING STATISTICS
(First Eight Months 1951-1950)

	1951	1950	Incr. or Dec.	Per cent change
Locomotive—klms.	31,699,903	31,060,651	+639,252	+2.1
Freight train—klms.	12,135,127	12,649,133	−514,006	−4.1
Pass. train—klms.	9,030,480	7,900,807	+1129,673	+14.3
Mixed & special train—klms.	3,101,781	3,319,640	−217,859	−6.6
Non-revenue train—klms.	453,533	303,255	+150,278	+49.6
Total train—klms.	24,720,921	24,172,835	+548,086	+2.3
Pass. train—klms.	73,713,199	69,284,679	+442,852	+6.4
Frt. loaded car—klms.	181,768,588	190,512,183	−8743,595	−4.6
Frt. empty car—klms.	89,600,966	93,028,478	−4027,512	−4.3
Total frt. cars—klms.	270,769,554	283,540,661	+12771,107	+4.5
Net ton—klms. (1,000's)	5,975,252	6,166,831	−191,519	−3.1
Gross ton—klms. (1,000's)	12,484,894	13,038,448	−553,554	−4.2
Total number cars loaded	326,895	341,801	−14,906	−4.4
Net tons per train—klm.	464	462	+2	+0.4
Gross tons per train—klm.	924	924		
Speed per hr. (klms.) frt.	18.4	18.9	−0.5	−2.6
Gross ton—klms. per train-hr.	16,977	17,446	−469	−2.7
Frt. locomotive—klms. daily	171	175	−4	−2.3
Liters oil per 1,000 g.t. klm. frt.	53.7	51.0	+2.7	+5.3
Per cent loaded car—klms. to total	67.1	67.2	−0.07	−0.1
Car—klms. per car daily	48.0	49.3	−1.3	−2.6
Net tons per car	32.87	32.37	+0.50	+1.5
Cars on line daily	23,218	23,657	−439	−1.9
Klms. line operated	13,295	13,799	−4	−

LOADED CARS INTERCHANGED WITH U. S. ROADS—First Seven Months 1951

	Imports		Exports	
	1951	1950	1951	1950
Laredo	13,606	11,842	5,510	7,116
El Paso	2,767	2,919	2,911	3,336
Eagle Pass	3,014	2,827	1,395	1,499
Brownsville	1,779	2,586	4,046	4,822
Totals	21,166	20,174	13,862	16,773

TREND OF TRAFFIC—First Seven Months 1951

Commodity	1951, tons	1950, tons
Forest products	356,873	367,773
Agricultural products	2,282,273	2,486,149
Animals and animal products	114,117	112,776
Inorganic products	4,767,497	4,875,156
General merchandise	1,253,454	1,025,634
Totals	8,774,214	8,867,488

double units—and 8 23,000-lb. tractive force diesel-electric road-switchers, most of which have already been received. Fifteen hundred box cars and other equipment also were ordered, although receipt of such rolling stock has not been recorded in detail. An additional loan of $5 million was obtained from the same source for the Mexican Railway, a government-owned line running from Mexico City to the port of Veracruz, on the Gulf of Mexico.

New Mexico City Plant

Considerable headway has been made in the excavation work, track laying, and other phases of work on the new Mexico City freight terminal, in which approximately 90 million pesos will be invested. The Puebla-to-Oaxaca narrow-gage line is being widened. Most of the new rail required is now being put in the track and it is hoped that the standard-gage line will be inaugurated before President Miguel Aleman finishes his term in December 1952. Important personnel changes during 1951 were as follows: Ramiero E. Martinez was appointed general superintendent of transportation; Jose Morales Sanchez was appointed general superintendent of motive power and machinery, succeeding Lorenzo Valadez, who has been retired on pension; and Alfonso Hernandez Lozano was appointed chief statistician, succeeding Paulino Lopez, who retired after 50 years of service.

There was a comparatively heavy drop in freight traffic, net ton-kilometers having decreased from 6,166,831,000 in the first eight months of 1950 to 5,975,252,000 in the same period of 1951, or 3.1 per cent. Locomotive-kilometers decreased 639,252, or 2.1 per cent, whereas freight train-kilometers decreased 514,006, or 4.1 per cent. Passenger-train kilometers, in contrast, increased

1,129,673, or 14.3 per cent, principally because of the heavy movement of Mexican "braceros" going to work in the United States agricultural fields, by agreement between the two governments. The major proportion of the drop in the freight handled is understood to have resulted from withdrawing motive power from freight service to handle the additional passenger traffic originated by such movements. The greater decrease in loaded car-kilometers —which dropped 8,743,595, or 4.6 per cent—than in net ton-kilometers—which fell 191,519,000, or 3.1 per cent —brought about an increase from 32.37 to 32.87, or 1.5 per cent, in the number of net ton-kilometers per loaded car-kilometer.

The larger decrease in freight train-kilometers (4.1 per cent) than in net ton-kilometers (3.1 per cent) produced a slight increase—from 462 to 464, or 0.4 per cent —in the net tons per train-kilometer. However, the decrease in freight-train speed—which dropped from 18.9 to 18.4 kilometers per hour—brought about a comparatively slight decrease (from 17,466 to 16,977) in the gross ton-kilometers per train-hour, the gross ton-kilometers per train having remained at 924, because of the parallel drop in gross tons and freight kilometers.

Total imports from the United States, in carloads, increased from 20,174 in the first seven months of 1950 to 21,166 in the same period of 1951. Increases occurred principally at the Laredo and Eagle Pass gateways. However, carload exports in the same period dropped from 16,773 to 13,862, with decreases at all gateways.

The total of revenue tons of freight transported during the first seven months of 1951 decreased from 8,867,488 to 8,774,214. Decreased tonnage occurred in all commodity groups with the exception of animal products and general merchandise. There was a decrease of 12,474 in revenue carloadings—from 307,894 to 295,420.

Gross Earnings at Peak

Gross railway earnings increased from 378,084,567 pesos during the first eight months of 1950 to 409,948,961 pesos in the same period of 1951—or 8.43 per cent. Freight revenues increased from 280,759,101 pesos to 305,184,707 pesos, equivalent to 8.70 per cent; passenger earnings increased from 50,640,305 pesos to 51,750,313 pesos, or 2.19 per cent; express revenues increased from 28,574,758 pesos to 34,037,026 pesos, or 19.12 per cent; miscellaneous earnings increased from 12,546,867 pesos to 13,900,624 pesos, or 10.79 per cent, and telegraph revenues increased from 33,650 pesos to 36,110, while baggage earnings decreased from 110,424 pesos to 95,945 pesos, or 13.11 per cent. Total operating revenues increased from 372,665,105 pesos to 405,004,725 pesos, or 8.68 per cent, whereas other-than-operating revenues decreased from 5,419,462 pesos to 4,944,236 pesos, or 8.77 per cent.

Total railway operating expenses increased from 379,038,438 pesos in 1950 to 425,389,940 pesos in 1951, or 12.23 per cent. Maintenance-of-way department expenses increased from 62,612,441 pesos to 66,865,073 pesos, or 6.79 per cent, maintenance-of-equipment expenses increased from 107,215,746 pesos to 118,257,967 pesos, or 10.30 per cent; traffic department expenses increased from 2,568,176 pesos to 3,267,776 pesos, or 27.24 per cent; transportation department expenses increased from 139,120,597 pesos to 157,177,191 pesos, or 12.98 per cent; express department expenses increased from 18,077,027 pesos to 20,386,558 pesos, or 12.78 per cent; miscellaneous expenses increased from 878,144 pesos to 935,948 pesos, or 6.58 per cent; general expenses increased from 23,745,142 pesos to 28,384,114 pesos, 19.54 per cent; and total operating expenses increased from 354,217,273 pesos to 395,274,627 pesos, or 11.59 per cent. Other-than-operating expenses increased from 24,821,165 pesos to 30,115,313 pesos, or 21.33 per cent.

Improved roadbed and heavier rail are enabling the Mexican railways to improve performance and efficiency

Higher Expenses

The proportionately higher increase in the total railway operating expenses—amounting to 46,351,502 pesos, or 12.33 per cent—than in total railway operating revenues—amounting to 31,864,394 pesos, or 8.43 per cent —produced a loss of 15,440,979 pesos in the first eight months of 1951, against a loss of 953,871 pesos in the same period of 1950. The operating ratio in 1951 was 96.4 per cent.

In the first eight months of 1951, the cost of labor and material per 1,000 kilometers run by passenger cars increased from 123.19 pesos to 144.57, or 17.4 per cent; and per 1,000 kilometers run by freight cars from 169.42 pesos to 211.21 pesos, or 24.7 per cent. These increases came chiefly from a 10 per cent increase in wages which went into effect in August 1950, as well as from continued inflation in the prices of materials and supplies. Cost of back-shop repairs to steam locomotives for the 12 months ending August 1951 amounted to 2,510.58 pesos per 1,000 kilometers run, and repairs to diesel-electric locomotives per 1,000 kilometers run amounted to 1,190.37 pesos in the same period.

On December 21, 1951, the Mexican government took possession of the Southern Pacific of Mexico, for which it paid $3,000,000 in cash and $9,000,000 in 3½ per cent serial bonds. This 1,227-mile line, which was a Southern Pacific subsidiary, was the chief remaining privately owned railroad in Mexico. It will be operated by the National of Mexico, with which it connects at Guadalajara.

Canadian Railways Face Many Difficulties, But Continue Improvement Programs

Higher wages and material costs, only partially balanced by increased rates, resulted in lower net incomes — Rate "equalization," subsidies, and competition are other problems

By OUR CORRESPONDENT AT OTTAWA

Disappointing financial results, despite a continued high level of traffic; a confused rate situation; and more than usual government concern—for better or worse—with transportation problems marked the 1951 railroad year in Canada.

Traffic and Earnings

Freight traffic showed remarkable buoyancy, chiefly because of expanded defense activity, but partly, too, because of mild weather conditions in the last three months of the year, as a result of which grain movement by rail was almost doubled and pulpwood loadings also showed a large increase over the preceding year. Total revenue car loadings through December 29, 1951, aggregated 4,166,515 cars, against loadings of 3,904,897 cars through December 30, 1950, and 3,906,674 through December 31, 1949.

With somewhat higher rates also in effect, gross operating revenues of the Canadian National were expected to exceed $600 million, against $553.8 million in 1950 and $500.7 million in 1949; those of the Canadian Pacific have been estimated at about $430 million, compared with $378.6 million and $363.3 million in 1950 and 1949, respectively. Higher wages and a shorter work week for most employees combined, however, with greatly increased prices of materials and supplies to produce even larger relative increases in operating expenses—from $494 million to around $575 million for the C.N., for example. The C.P., faced with the same situation, has estimated that its net railway earnings for 1951 will be about $10 million less than for 1950.

"In a year of high economic activity," W. A. Mather, president of the C.P., said, in his year-end statement, "this result must be regarded as extremely disappointing. . . . After all outstanding applications have been granted, the increases in railway charges will have amounted to less than 60 per cent from the levels prevailing before World War II. Compared with this, wholesale prices in general are now more than 140 per cent higher than at that time and the increases are most marked in commodities essential to railway operation. Wage rates have risen almost in the same ratio."

"Management," declared Donald Gordon, president of the C.N., in a corresponding statement, "is considerably concerned because the revenues from increased freight traffic and higher freight rates are not keeping pace with rapidly mounting operating costs. The biggest jump was in our wage bill. We are the largest industrial employer in Canada, and the granting of the 40-hour week with wage increases has created a heavy additional burden of operating expense that is bound to be reflected in our net income account. We are also the nation's biggest purchaser of industrial materials, and rising prices hit us hard."

Rates vs. Wages

The unsatisfactory freight rate situation which confronted Canadian roads at the end of 1951 goes back some three decades—to 1920, when there was a general increase in rates, followed by reductions in the two succeeding years, with no other important changes until after World War II. During that war, the Wartime Prices and Trade Board "froze" rail charges; by the time they were "defrosted" controls over prices of materials and over wages had also gone by the board—with disastrous results to net railroad earnings.

Decontrol of prices forced the railways to seek higher rates; in October 1946 they asked for a general freight rate increase of 30 per cent, on which they were finally allowed 21 per cent—not effective until April 1948. This increase brought from railroad employees a demand, backed up by a strike threat, for a wage increase, finally granted, to the extent of 17 cents per hour, retroactive to March 1, 1948.

Nearly four months later the railroads countered with another application for a freight rate increase of 20 per cent, but their position was complicated by the fact that the Board of Transport Commissioners' previous award of 21 per cent was still before the federal cabinet on an appeal by various provincial governments. Out of a further hearing on the original 21 per cent boost and the 20 per cent application, the board finally awarded an additional general increase of 8 per cent, which was subsequently raised to 16 per cent and then to 20 per cent.

This in turn brought another drive from labor unions for higher wages which led to a general strike of non-operating employees in the last nine days of August 1950. The final result of the strike—after it had been ended by act of Parliament—was a wage increase of 7 cents per hour, a five-day, 40-hour work week to become effective not later than September 1, 1951, and a

During 1951 the Canadian Pacific began dieselization of its main line through the Canadian Rockies from Calgary, Alta., to Revelstoke, B. C., approximately 262 miles. Dieselization of this section, when completed in 1952, will result in replacement of the British Empire's largest steam locomotives—the "Selkirks." The four-unit, 6,400-hp. locomotive shown here, built by the Montreal Locomotive Works, has been handling loads of 3,200 tons and up over mountain grades

two-year wage agreement to run to September 1, 1952.

The intervention of Parliament, while it ended a dominion-wide paralysis of rail transportation, also gave the employees valuable concessions, the cost of which is being persistently told by the railways to Parliament and public, and which forced the railways to apply last spring for another 7 per cent rate increase. This request was raised last fall to 10 per cent, with an immediate 5 per cent interim increase also sought to bridge the period required to obtain a decision on the full 10 per cent boost. The Board of Transport Commissioners had that increase under advisement at the end of the year.

The pending 10 per cent increase, the roads explained, was really based on the 20 per cent "defense surcharge" imposed to help pay for Canada's expanded defense production program, but was also needed to help cover higher wages and the shorter work week resulting from the 1950 strike. The increase, if granted in full, would yield additional freight revenues of about $45 million per year, according to railroad estimates.

To add to the confusion in the railroad rate situation, there came from Parliament late in the fall of 1951 legislation amounting to a directive to the Transport Board in its long-standing study of the problem of freight rate "equalization." "Equalization," it is said, is like weather—everybody talks about it, but nothing effective can be done about it. Most Canadians would probably admit that there are disparities in railroad freight rates—disparities inevitable and unavoidable on two railroads of transcontinental size. But what are called "stubborn facts of geography" still have to be reckoned with before the problem can be solved. Southern Ontario and Western Quebec are favored by existence of both truck and water transport. Obviously, therefore, the railroads are forced to keep down their rates in that territory to meet competition; by the same token, and equally obviously, they are forced to seek compensation in other regions where competition does not exist.

Under the Parliamentary directive, the Transport Board is supposed to see that railways do not carry freight at rates that are not compensatory—they must, in other words, meet cut-rate competition on some other basis, or else let other carriers get the business. Yet the Prairie and Maritime provinces, where there is little or no truck or water competition, and where the railways have previously been able to obtain compensating rates, are the bitterest opponents of the rate increases already granted to meet rising costs.

Subsidies ? ? ?

It is not easy, informed observers at Ottawa are reported to have said, to see how the railways, faced with higher costs all along the line, can reduce their charges to please all parts of the country, and still stay in business. One possible answer may lie in some form of subsidy; in fact, the Royal Commission on Transportation, which made a detailed report on many phases of Canada's transport problems last spring (*Railway Age*, March 26, 1951, page 42) recommended, and Parliament has already approved, an annual subsidy of some $7 million to the two major railways to defray the cost of operating unprofitable "link" lines through the sparsely settled areas of northwestern Ontario. But this, it has been hinted, may not be the last word—Parliament, it is said, may have to consider still further subsidies, either to railways or to shippers.

It is certain, however, that Canadian geography is such, and the need for railway service as the only connecting link between east and west is so great, and so important to national defense and national unity, that such service cannot be allowed to disappear or even deteriorate, whatever cost, in subsidies or otherwise, may be necessary to maintain it.

Coordinated Service ? ? ?

Another at least partial solution may lie, however, in the proposal suggested in Mr. Gordon's blunt talk to the Toronto Railway Club (*Railway Age*, December 24, 1951, page 15) and repeated in his year-end statement, that Canadian railways may go into the trucking business "to give the public full benefit of coordinated techniques."

Meantime, the railroads of Canada, despite all their problems, are, like the railroads of the United States, continuing their unremitting efforts to provide constantly better service to the people of the dominion. In his year-end statement, for example, Mr. Mather said in part:

"Without doubt, the great majority of the Canadian people would agree that its railways should have facilities and equipment of the most modern kind to permit the safest, speediest, most efficient and most economical movement of goods and passengers, but this can only be accomplished by the railways being permitted to earn enough to finance the outlay which this program will necessitate.

"The Canadian Pacific is now engaged in executing a five-year plan which will involve an investment of $400 million in new motive power, rolling stock, both passenger and freight, and other facilities, and this program is by no means excessive as compared with the needs which are to be anticipated if the nation is to continue its present rate of progress.

"The company's replacement of steam with diesel locomotives has continued and was extended to the territory between Calgary and Revelstoke, over some of the heaviest gradients of the system. A total of 28 of the most powerful diesel units used in Canada were placed in this important service, and a further 38 such units are marked for delivery in 1952 to complete the dieselization of this strategic 262-mile section.

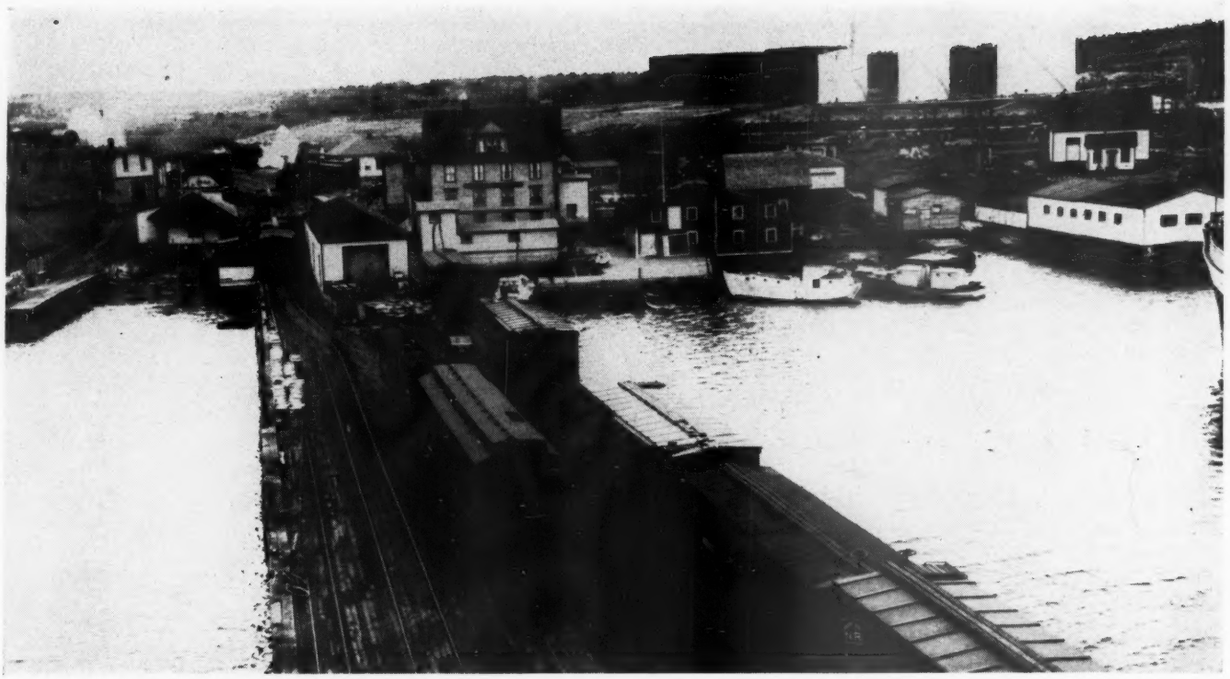
"To meet the constantly increasing demands of shippers, orders for some 3,575 freight car units were placed for delivery during 1951 and additional orders for 4,250 freight car units have been given for 1952 delivery. The total capital outlay for new equipment including locomotives, passenger equipment and freight cars during 1952 will amount to around $60 million. . . .

"The future world situation, and its effect upon Canadian industry and trade, is, of course, extremely unpredictable, but the Canadian Pacific anticipates that business in 1952 will be maintained at about the levels of the past year and continues to endeavor to improve the efficiency of its operations in order to meet transportation requirements."

In similar vein, Mr. Gordon, after reviewing briefly the "marked and continuous expansion . . . in every facet of Canada's economy," went on to say:

"The Canadian National was intimately associated with these activities in 1951. From Newfoundland to British Columbia our engineers and development officers were active, working in close liaison with both government and industry, whose combined planning indicates that more than $600 million will be spent in the immediate future on industrial plant and development along our lines.

"We have begun the construction of a 147-mile rail line from Sherridon, Man., to Lynn Lake, where an important property, containing nickel and other strategic metals, is being developed. Preliminary surveys have



When the island of Newfoundland became the tenth province of the Dominion of Canada in 1949, the Canadian National took over the narrow-gage Newfoundland Railway, which is now operated as the C.N.'s Newfoundland district. The rail terminal at Lewisporte on Notre Dame bay is a major import point for oil consigned to Gander airport

also started that will result in construction of a 46-mile rail link from Terrace, B. C., to Kitimat, where a water power and refinery project, costing at least $500 million, has been started by the Aluminum Company of Canada. These are but two of the major projects with which we have been associated. There have been scores of others. . . .

"Record of Constant Progress"

"The essentiality of the railways and their ancillary services is not questioned. As a matter of fact, it is taken for granted, and except when a dramatic change occurs—such as the trend to dieselization—little public notice is taken of the cumulative effect of improvements that have been made by the railways in their operating techniques, equipment and services. Nevertheless, the record has been one of constant progress since the era when the railways made possible a transcontinental economy which could prosper in a land of vast distances. The past year has been no exception, and the searching out of ways and means further to improve our facilities goes steadily forward. . . .

"Our roster of diesel locomotives was increased by 108 units, and we are now awaiting delivery of 57 additional units for which orders were placed during the year. Our through freight services are now being operated with diesel power between Halifax, Montreal, and Toronto, and between Montreal and the Lake St. John district, and diesels are being used in regular services on lines and in terminals in every part of Canada.

"We received 5,205 units of new freight car equipment, and 70 units of new passenger train equipment during the year, and we have more than a thousand units of rolling stock now on order. Our program of modernizing passenger cars in our own shops is making good headway. The delivery of new box cars, coupled with an accelerated repair and shopping schedule, has improved the car supply for movement of the large volume of freight traffic that has developed, but shortage of steel and other difficulties have unfortunately held deliveries to a slower pace than we would wish. . . . Despite difficulties, we did a good job of meeting the demands of traffic. . . .

"A problem of national interest and, indeed, of concern, is that of growing competition from highway carriers. In every part of the country last year the network of highways was improved and extended by federal and provincial governments, and the competitive position of motor transport operators accordingly improved. The question of road-rail competition is one to which the railways are giving a great deal of time and study. In the Canadian economy there is a place and a need for motor carriers and railways, but there exists an unequal balance of burden and advantage between the two forms of transport. Part of the answer may be found in the extension of railway owned and operated bus and truck services. New highway routes were established by the Canadian National last year where we found that we could give a better service to certain areas, but these were, and will continue to be, regarded as supplementary.

"The report of the Royal Commission on Transportation [has] formed the basis of legislation now being examined by Parliament, including the important principle of freight rate equalization which involves primarily a conflict of interest between shippers. Implementation of corrective measures recommended for adjusting the capital structure of the C.N. will do a good deal to dispel the fog of misunderstanding which has surrounded our financial results and bring into sharper focus the real contribution made by the system to the economic life and security of the nation. The report itself is a well organized and informative document, providing a sound basis of discussion which will greatly facilitate Parliamentary consideration of a national transportation policy."

THE LARGEST SINGLE PROJECT—Aerial view of a part of the Quebec, North Shore & Labrador, being built at a cost of $115,000,000 to reach iron ore deposits in Quebec

High Construction Rate Keeps Roads Ready

By H. E. MICHAEL
Associate Editor

THE OUTLOOK FOR 1952

Contingent upon the continuing availability of materials, the prospects are excellent for high volume of railroad construction in 1952. One of the major factors brightening the construction picture of the new year is an estimated $200,000,000 "carry-over" previously authorized for work started prior to the first of the year but not completed. The second factor pointing to greater construction activity this year is the collective estimate of Class I roads that they will expend an estimated $83,000,000 on capital roadway improvements during the first quarter of 1952. This is $16,000,000, or 24 per cent, more than they spent in the first quarter of 1951.

Further assurance that railway construction in '52 will continue at a high rate is contained in the fact that more than 134 miles of new line are now under construction in the United States and 513 miles are now being built in Canada. Additional lines are now under survey, with actual work on some scheduled to start soon.

Dispensing with the "spit and polish" type of improvements of more lush days, the railroads of the United States and Canada got down to "brass tacks" in 1951 and improved their properties for any eventuality — whether it be to carry more defense traffic, to effect greater economies in the handling of all traffic offered to them, or to "throw out new lines" for more business. Cognizant of the need for speed, and intent on getting as much done as possible with the materials and money available, the railroads in these two countries undertook a larger dollar volume of construction work last year than in any year since 1948 and carried on the second highest volume of work in progress since 1930.

The upward surge of construction activity that began in June 1950, following the Korean "incident," could not be held down in 1951 by such deterrent influences as the uncertainty of material supply, inflated costs, a lower net income (which occurred in spite of a high volume of traffic), or the record buying of rolling stock that was "scraping the bottom of the barrel" in the capital-expenditure bracket. The very strength that supported such a large construction volume during the past year

and a half promises to sustain an even higher volume of activity in the year ahead.

The extent to which the upsurge of activity has continued can be ascertained from reports of engineering officers to *Railway Age*, which indicate that the major categories of construction work under way during 1951 will have cost, when completed, a total of $538,565,000. In addition, other large projects were reported under way at an estimated cost of more than $138,000,000, although specific information regarding the individual cost of these projects was not revealed. None of these figures, as high as they are, includes authorizations for signaling and C.T.C.—a construction category that always ranks high in total expenditures.

Some measures of the speed with which the railways acted after the need for handling defense traffic became apparent, as well as of how far they went in consummating such action, can be gathered from the fact that the total cost of major categories of construction work in progress in 1951 was more than $120,000,000 in excess of the amount authorized for work in progress the year before, even though the 1950 figures included signaling work and other miscellaneous projects. Capital expenditures for road improvements in 1951 approached the largest amount spent in any year since 1930.

More Yards—Fewer Bottlenecks

As *Railway Age* predicted last March, yard and terminal improvement work constituted the largest single category of capital improvements in progress during 1951. This was to be expected, since the theme of most railway construction work in the past several years has been "to provide facilities that permit greater efficiency and economy, to give better service to the public or to provide the capacity to handle a greater volume of business." That the railways committed their forces and money "to the hilt" to realize this objective during 1951 is indicated by reports that yard and terminal projects were under way during the year which, when completed, will have cost $154,769,000. This was more than twice the cost of the 298 such projects reported under construction in the year before, when this class of improvement work was also the largest of all those in progress. Yard construction work not only comprised the largest category of work in progress in 1951 but it promises to command the same prominence in 1952 on the basis of a "carry-over" of more than $74,000,000 authorized for work not yet complete.

While work was going forward on yards and terminals, designed to add to the capacity of the railroads by facilitating the handling of traffic, a total of $65,000,000 was allocated for new lines and additional tracks, aimed at obtaining even more traffic to be moved through the new terminals. It was reported in last year's Review and Outlook Number that "unusual activity is noted in the construction of new lines," and this category of construction work has developed in importance even more rapidly than was anticipated. As construction of new lines has risen to prominence in the expenditures column, spurred by the need for new sources of minerals and iron ore, an increasingly larger share of the capital expenditure dollar in 1952 and succeeding years can be expected to go in that direction.

As would be expected from the large amount of money authorized for the construction of new lines, a larger mileage of new road was completed in the United States in 1951 than in the year before. Although the total of 129 miles constructed in the United States in 1951 is small in comparison with that built during the "expansion" era, it has been exceeded only twice since 1932—in 1937 and 1947. No large lines were completed in 1951 but some of the trackage laid was part of longer lines under construction. In addition to the first track built, five miles of second track and less than a mile of third track were finished. Whereas much of the new trackage constructed in this country in recent years has been

LARGEST CONSTRUCTION CATEGORY—More yards and terminals were underway in 1951 than any other class of improvement. This retarder tower overlooks the classification tracks of the Southern's John Sevier yard, one of several built during the year

MILES OF MAIN TRACK BUILT IN THE UNITED STATES IN 1951

States	No. of Companies Building	First track	Second track	Third track	Fourth track	Total
Alaska	1	14.30	...	...	...	14.30
California	2	6.98	...	...	...	6.98
Colorado	1	9.54	...	..	...	9.54
Florida	3	19.49	...	...	...	19.49
Georgia	1	...	...	0.64	...	0.64
Illinois	1	...	1.50	...	...	1.50
Louisiana	1	...	1.14	...	...	1.14
Michigan	1	4.50	...	...	...	4.50
Missouri	1	6.53	...	...	...	6.53
New Jersey	1	1.71	...	...	...	1.71
North Carolina	1	1.40	...	...	...	1.40
Oregon	3	41.13	...	...	...	41.13
Pennsylvania	2	12.60	2.00	...	...	14.60
Texas	1	11.03	...	...	...	11.03
Total		129.21	4.64	0.64	0.00	134.49

CLASSIFICATION OF CONSTRUCTION WORK IN 1951

Construction Category	Total Estimated Cost	Estimated Amount Chargeable in 1951	Estimated Carryover
New Lines, additional tracks	$64,473,161	$20,014,609	$10,819,041
Revisions of grade and alinement	44,781,527	17,653,970	28,083,724
Yards and terminals	154,769,221	47,448,786	74,034,801
Bridge work	51,721,536	19,223,779	16,027,911
Buildings			
Passenger stations	8,651,904	4,746,870	2,250,099
Freighthouses	15,386,007	8,333,521	2,919,628
Car shops	5,286,745	2,369,592	2,662,539
Other buildings	28,284,304	14,469,183	10,572,271
Locomotive shops and servicing facilities	63,118,059	24,811,358	14,477,795
Industrial tracks	30,922,166	17,364,052	5,051,695
Tunnels	9,851,278	5,676,205	2,436,943
Grade separations (Total cost)	61,319,423	8,078,825	10,084,230
Total	$538,565,331	$190,190,750	$179,420,677

incident to relocation work of one kind or another, and therefore did not represent a net increase in the railway mileage of the country, most of that reported this year represents original construction.

In Canada a total of 55 miles of new line was built, comparing with 9 miles in 1951 and 39 miles in 1949. A total of 6 miles of second track was built in Canada in 1951, while none was constructed in 1950. Enhancing the outlook that activity in the construction of new lines will continue in 1952, and later, is the fact that about 135 miles of new line are now under construction in the U. S. and 513 miles in Canada.

Although authorizations for locomotive-servicing facilities did not equal outlays for new lines and additional tracks being built during 1951, more money was charged to the former than for any other class of improvement except yards and terminals. This, too, followed the pattern of recent years during which a large percentage of all additions and betterments have been designed to utilize the full capacity of new equipment—especially diesel-electric locomotives.

Such facts as these are shown in one of the tables, which gives a comprehensive analysis of each of the major categories of construction work reported in progress during the year, exclusive of signaling and miscellaneous construction. It shows, for instance, that bridge work in progress during 1951 will cost $51,721,000 when completed. This total is about the same as that reported for the same category last year. All figures given in this table represent the construction activities of 154 railroads that furnished details of their expenditures. Because four Class I railroads were unable to break down their expenditures by categories, the figures shown in the table, as large as they are, must be considerd as minimum.

Although most of the construction work in progress in the United States during 1951 was on Class I carriers, the short lines were also adding to and bettering their properties. Like their bigger neighbors, they too increased their construction activities during the year, making capital expenditures of $15,248,304 as compared with $10,608,154 in 1950.

The largest single construction project under way in the United States or Canada during 1951 involved the expenditure of $115,000,000 to construct the Quebec, North Shore & Labrador to reach immense iron ore deposits in Labrador. This project, about 20 per cent complete at this time, is not expected to be in service until some time in 1954.

Of the construction projects under way in the United States on which detailed costs are available, the largest involves the total expenditure of about $17,000,000 for the revision of grade and alinement of the Southern Pacific because of the construction of the Lookout Point dam on the Willamette river between Armet, Ore., and Jasper. Both this realinement project and the Centennial Cutoff of the Burlington, which will cost about $16,330,000 when finished, are expected to be completed in 1952.

Following is a detailed report by roads of all construction projects, either completed during the year, or still in progress at its close, the individual cost of which approached or exceeded $1,000,000, as well as all new lines and multiple tracks constructed, under construction or under survey, regardless of cost.

RAILWAY CONSTRUCTION IN THE UNITED STATES

(Figures in parentheses indicate percentage of completion at the end of 1951.)

Alaska

First Track: Various locations, in Alaska, 14.30 miles.

Important Work Undertaken: Construction of Turnagain Arm project, including the revision of grade and alinement on railway and highway, Indian, Alaska, to Potter, $5,436,000 (100); relaying of 130 miles of rail, installation of new ballast, and replacement of ties at various locations, $11,985,000 (98); construction of car and coach shop, Anchorage Terminal yard, $1,318,000 (10).

Atchison, Topeka & Santa Fe

Important Work Undertaken: Revision of grade and alinement, Medill, Mo., (100); construction of freighthouse, Corwith, Ill., (40); installation of C.T.C., including necessary track changes, Bakersfield, Cal. to Calwa, (75); construction of car-cleaning facilities, Los Angeles, Cal., (100).

(Gulf, Colorado & Sante Fe) *Important Work Undertaken*: Revision of grade and alinement for the construction of Whitney dam, Kopperl, Tex. (90).

Atlantic Coast Line

First Track: Keela, Fla., to Okeelanta, 16.67 miles; at Wilmington, N. C., 0.48 miles; at Acme, N. C., 0.92 miles.

Important Work Undertaken: Construction of branch line, Keela, Fla. to Okeelanta, $1,110,000 (100).

Baltimore & Ohio

Important Work Undertaken: Construction of import-ore pier, Locust Point, Md., $5,000,000 (100); construction of tunnel, Clarksburg, W. Va., $4,000,000 (75).

Canadian National

(Grand Trunk Western) *Important Work Undertaken*: Purchase of 10-story Transportation building, Detroit, Mich., for future headquarters and city ticket office, $1,000,000 (100).

Chesapeake & Ohio

(Chesapeake District) *Important Work Undertaken*: Replacement of steel spans in viaduct, Tredegar st., and reconstruction of three bridges, Richmond, Va., $3,461,000 (60); replacing steel spans in the viaduct, 18th st., Richmond, Va., $2,216,000 (started); installation of C.T.C., including track changes, Westham, Va., to Bremo and Balcony Falls, Va., to Lynchburg, $1,067,625 (started); replacement of approaches on Big Sandy bridge, Kenova, W. Va., to Cattlettsburg, Ky., $1,917,700 (98); installation of C.T.C., including extension of passing tracks and other track changes, Cheviot, Ohio, to Drew, Ind., $2,101,690 (65); installation of C.T.C., including extension of passing tracks and other track changes, Drew, Ind., to Peru, $1,546,000 (20); extension of Dawkins subdivision, Carver, Ky., $4,527,500 (100); installation of C.T.C in connection with construction of third track between Riverton, Ky., and Limeville, $2,112,220 (100); installation of remote-control power switches and signals at passing tracks, Limeville, Ky., to Cummings, Ohio, $3,013,000 (100).

Chicago & North Western

Important Work Undertaken: Revision of grade and alinement, involving the construction of 9.07 miles of track, east of Negaunee, Mich., $1,571,930 (100); installation of intermittent inductive type of automatic train stop, Chicago to Wyeville, Wis., $1,407,536 (30).

Chicago, Burlington & Quincy

First Track: Needles, Mo., to Forker Junction, 6.53 miles.

Important Work Undertaken: Construction of Centennial Cutoff, Needles, Mo., to Maxwell, involving 6.53 miles of new line and reconstruction and rehabilitation of 21.84 miles of main track, $16,330,154 (82); installation of C.T.C., including track changes, Ravenna, Neb., to Alliance, $1,841,172 (100); rearrangement of yard, Daytons Bluff, Minn., $953,138 (100).

(Kansas City & Brookfield) *New Road Under Construction*: A part of the Centennial Cutoff, from Cotter, Mo., to Maxwell, 42.58 miles, includes installation of pipes and culverts (100), construction of bridges (85), grading (99), and track laying (60).

Chicago, Milwaukee, St. Paul & Pacific

Important Work Undertaken: Rearrangement of Air Line yard to provide improved communication and modern classification facilities, including car retarders, Milwaukee, Wis., $3,000,000 (41).

Chicago, Rock Island & Pacific

New Road Under Construction: Atlantic, Iowa, to McClelland, 33.86 miles (relocation).

Important Work Undertaken: Construction of 3.73 miles of line to connect Union Pacific track and Denver & Rio Grande Western's new yard, Denver, Colo., $1,332,168 (100); construction of hump yard, Silvis, Ill., $3,500,000 (96); revision of grade and alinement, involving construction of 34.52 miles of main line and removal of 41.09 miles of existing line, between Atlantic, Iowa, and Council Bluffs, $8,027,000 (started).

Clinchfield

Important Work Undertaken: Installation of C.T.C., including extension of passing tracks, Erwin, Tenn., to Spartanburg, S. C., $1,116,757 (74).

Colorado & Wyoming

First track: Weston, Colo., to Allen Mine, 9.54 miles.

Important Work Undertaken: Construction of 9.54 miles of main track and 1.45 miles of side tracks extending the line from Weston, Colo., to Allen Mine, $1,320,000 (100).

Delaware, Lackawanna & Western

Important Work Undertaken: Construction of two undergrade crossings, one overhead crossing, two pedestrian subways and drainage structures in connection with grade crossing elimination project, Corning, N. Y., $1,000,000 (100).

Erie

Important Work Undertaken: Elimination of highway crossings on the Erie and the Delaware, Lackawanna & Western, based primarily on relocation of 6.89 miles of Erie main line, including the construction of 13 single-span, and seven multiple-span railway bridges, two multiple-span overhead highway bridges, the building of three pedestrian subways, 29 drainage structures, construction of a passenger station and plaza, a freighthouse and driveways, a street, and incidental municipal items, plus the installation of diesel-terminal facilities, Corning, N. Y., (55); construction of additional diesel shop facilities, including a 93-ft. by 242-ft. extension to the service shop and an 80-ft. by 104-ft. extension to the repair shop, construction of a lye vat and a two-story employees' service building, together with the rearrangement of tracks and other servicing facilities, Marion, Ohio, (23).

Illinois Central

Important Work Undertaken: Modernization of northward hump classification yard, Markham yard, Ill., $1,820,000 (60); strengthening and renewing parts of bridge over Ohio river, Cairo, Ill., $6,266,920 (98).

Jersey Central Lines

First Track: Bayway, N. J., to Tremley, 1.71 miles.
Important Work Undertaken: Construction of l.c.l. freight facilities, Elizabeth, N. J., $1,018,000 (100); construction of westbound classification yard, including installation of car retarders, improvement of car-repair facilities, and installation of improved signal equipment, Allentown, Pa., $3,500,000 (35).
(New York & Long Branch) *Important Work Undertaken*: Construction of double-track main line on an embankment across Matawan Creek valley and abandonment of timber trestle, Matawan, N. J., $1,013,000 (45).

Lakefront Dock & Railroad Terminal

Important Work Undertaken: Installation of two Hulett ore unloaders, Toledo, Ohio, $2,750,000 (10).

Lake Superior & Ishpeming

First Track: Duncan, Mich., to Humboldt, 4.50 miles.
New Road Under Construction: Humboldt, Mich., to Republic, 7.50 miles.

Long Island

Important Work Undertaken: Installation of wayside facilities along 165.1 miles of track for automatic speed control, $2,396,243 (20).

Louisville & Nashville

New Road Under Construction: Gonzalez, Fla., 2.57 miles.
Important Work Undertaken: Installation of C.T.C., including track changes, Calera, Ala., to Montgomery, $1,077,360 (55); installation of C.T.C., including necessary track changes, Amqui, Tenn., to Henderson, Ky., $1,821,639 (100); expansion of yard facilities including receiving yard, classification yard, departure yard, and incidental mechanical facilities, Radnor yard, Nashville, Tenn. $10,546,600 (10).

Missouri-Kansas-Texas

First Track: Whitney, Tex., to east of Morgan, 11.03 miles (relocation).
Important Work Undertaken: Revision of grade and alinement, work done by federal government, near Whitney, Tex., $4,000,000 (100).

Missouri Pacific

Important Work Undertaken: Construction of consolidated freight station and office building, including track work, driveways and drainage system, St. Louis, Mo., $1,800,000 (100); construction of a main track and elevated structure connecting Lesperance Street yard with 12th Street yard, St. Louis, Mo., $1,252,000 (3).

Monongahela

Important Work Undertaken: Extension of Paw Paw branch, involving construction of 8.32 miles of single track, including two bridges, highway and a 2,700-ft. tail track, Grant Town, W. Va., to Rivesville, $1,980,000 (98).

Monongahela Connecting

First Track: Pittsburgh, Pa., 3.00 miles.
Second Track: Pittsburgh, Pa., 2.0 miles.
Important Work Undertaken: Construction of classification and storage yard, including scales, 25th Street yard, at Jones & Laughlin Steel Corp., Pittsburgh, Pa., $1,166,700 (100); construction of classification yard, including facilities for interchange with Pennsylvania, 30th Street yard, Pittsburgh, Pa., $1,785,000 (100).

Nashville, Chattanooga & St. Louis

Third Track: Howells, Ga., to Hills Park, 0.64 miles.
New Road Under Construction: Nashville, Tenn., to Radnor, 6.00 miles.
Important Work Undertaken: Construction of main tracks to connect existing line with new joint freight yard being constructed at Radnor, Tenn., by the Louisville & Nashville, Nashville, Tenn., $3,138,000 (5).

New Orleans Public Belt

Second Track: New Orleans, La., 1.14 miles.

New York Central

Important Work Undertaken: Construction of terminal to serve the United Fruit Company, Weehawken, N. J., (50); reconstruction of bridge H-15, New York (10); construction of servicing facilities for diesel locomotives, Watertown, N. Y. (50); construction of servicing facilities for diesel locomotives, Minoa, N. Y. (10); elimination of grade crossings, Buffalo, N. Y. (75); elimination of grade crossing, Kingston, N. Y. (100); elimination of grade crossings, Rochester, N. Y. (75); elimination of grade crossing, Hawthorne, N. Y. (100); elimination of grade crossing, Lancaster, N. Y. (100); construction of Major Deegan Boulevard, New York (50); construction of structure in connection with New Jersey Turnpike, Little Ferry, N. J. (50); construction of structures in connection with the Ontario Thruway, North Port Byron, N. Y. (50); installation of track and signal improvements, Lyons, N. Y., to Belle Isle (32); construction of tracks to serve Cleveland Electric Illuminating Company, East Lake, Ohio (100); construction of facilities for fueling and servicing diesel locomotives, Stanley (Toledo), Ohio (90); construction of facilities for fueling and servicing diesel locomotives, Ashtabula, Ohio (10); passenger station improvements, Toledo, Ohio (100); elimination of grade crossing, Holland, Ohio (65); elimination of grade crossing, Fostoria, Ohio (70); elimination of grade crossing, Cleveland, Ohio (35); construction of bridge across Cuyahoga river, Cleveland (65).
(Pittsburgh & Lake Erie) *Important Work Undertaken*: Construction of facilities for maintaining diesel locomotives, McKees Rocks, Pa. (started).

REALINEMENTS PROMINENT—Revisions of grade and alinement involve bridges as well as tracks. This structure was built to carry the Missouri-Kansas-Texas across the Brazos River valley near Whitney, Tex.

(Michigan Central District) *Important Work Undertaken*: Construction of overhead bridge, Lansing, Mich., more than $1,000,000 (60).
The approximate cost of these projects and others involving, individually, an expenditure of $100,000 or more, will amount to $82,623,005.

New York, Chicago & St. Louis

Important Work Undertaken: Construction of engine terminal facilities, Fort Wayne, Ind., $2,297,000 (98); installation of C.T.C., including track changes, Claypool, Ind., to Van Loon, $1,626,000 (45); relocation of Calumet yard and engine terminal Chicago, $2,278,000 (96); construction of two Wellman Hulett ore machines, Huron, Ohio, $1,800,000 (99).

New York, Susquehanna & Western

Important Work Undertaken: Construction of interchange facilities with the Pennsylvania, including a track and viaduct, work being done by the Pennsylvania, Jersey City, N. J., $1,200,000 (50).

Norfolk & Western

New Road Under Construction: Lick Branch, W. Va., to North Fork, 5.03 miles (relocation).
Important Work Undertaken: Construction of engine- service building, including water-supply facilities, engine-washing facilities, ash-handling facilities, and other improvements to the enginehouse, drop pits, inspection pits, oil house, roadways, tracks, power lines, and other facilities, Portsmouth, Ohio, $2,300,000 (70); revision of grade and alinement, including construction of 5.03 miles of double track laid with 132-lb. rail, installation of power-operated switches, construction of a 50,000-gal. wood tank and two standpipes, and new passenger and freight station at Elkhorn, W. Va., $3,813,500 (70); acquisition of an 8.80-mile spur and 1,238-ft. of sidings from the Cloverdale & Catawba and construction of 1,129 ft. of track, Cloverdale, Va., $1,218,050 (100); construction of an 850-car classification yard, including 9.70 miles of track, 61 turnouts, miscellaneous signaling facilities, a retarder system, and electrically operated automatic switches, Lamberts Point, Va., $1,135,000 (95); installation of two electrically operated traveling sidewall loaders, including mechanical trimming machines, on Coal Pier No. 4, Lamberts Point, Va., $1,080,000 (5).

Pacific Electric

First Track: Baldwin Park, Cal., to Azusa, 2.80 miles.

Pennsylvania

Important Work Undertaken: Construction of Sparrows Point spur, Baltimore, Md. (100); revision of grade and alinement in connection with construction by the federal government of flood-prevention dam, Blairsville, Pa., to Avonmore (100); construction of new freight warehouse, Pittsburgh, Pa. (100); construction of Philadelphia improvements—Step No. 1—Philadelphia, Pa. (64); construction of yard and tracks to serve the Studebaker Corporation, Adams, N. J. (95); construction of interchange facilities with New York, Susquehanna & Western, Jersey City, N. J., (50); construction of siding to serve new U. S. Steel plant, including yard additions, Morrisville, Pa. (10); construction of ore-unloading facilities, Philadelphia, Pa. (2); construction of freight station at Butler and Sepviva streets, Philadelphia, Pa. (started); construction of passenger terminal improvements—Step No. 2—Pittsburgh, Pa. (25). The approximate cost of these projects, $55,459,400.
(Englewood Connecting) *Second Track*: Englewood, Ill., 1.50 miles.

Port Everglades Belt

First Track: Port Everglades, Fla., 0.25 miles.

Reading

First Track: St. Nicholas, Pa., to Frackville, 2.90 miles; Glenlake, Pa., to Morrisville, 6.70 miles.

Important Work Undertaken: Remodeling eastbound and westbound classification yards, including installation of car retarders, control towers, new floodlighting facilities, and revision of grade and alinement of tracks, Rutherford, Pa., $3,600,000 (100); construction of a connection to the new Fairless Works, United States Steel Corporation, including grading, masonry and track work, Glenlake, Pa., to Morrisville, $1,750,000 (100); reconstruction of bridges and new signal controls on Reading Belt branch, Reading Pa., $2,900,000 (40).

Seaboard Air Line

Important Work Undertaken: Installation of C.T.C., including necessary track changes, Atlanta, Ga., to Birmingham, Ala. (100); construction of yard and shop facilities, Savannah, Ga. (30).

Southern

Important Work Undertaken: Reconstruction of John Sevier yard, Knoxville, Tenn., $2,800,000 (100); extension of present yard and construction of new engine terminal facilities, Press Street yard, New Orleans, La., $1,995,000 (90); construction of train yard and engine terminal facilities, Ernest Norris yard, Birmingham, Ala., $9,200,000 (35).

Southern Pacific

First Track: Antelope, Cal., to Roseville, 4.18 miles; Tolo, Ore., to White City, 6.18 miles.

New Road Under Construction: Armet, Ore., to Jasper, 23.06 miles (relocation); Downey, Cal., to Puente, 8.56 miles.

Important Work Undertaken: Revision of grade and alinement near Lookout Point dam on middle fork of the Willamette river, including two major bridges to effect river crossings, work being done by federal government, Armet, Ore., to Jasper, $17,000,000 (82); conversion of flat-switching yard to an automatic car-retarder yard, Roseville, Cal., $4,715,070 (12); construction of a by-pass line to serve Los Angeles harbor area, Downey, Cal., to Puente, $4,290,150 (16); construction of diesel-servicing facilities, consisting of three additional inspection pits, four additional elevated platforms, installation of two overhead cranes, machinery in drop pits, a wheel-truing machine, a 10-ton overhead crane in machine shop and a load tester in the diesel shop, the construction of a 20-ft. by 30-ft. addition to the machine shop, the construction of 130-ft. by 276-ft. diesel shop and stores building, Roseville, Cal., $1,734,310 (15).

Terminal Railway, Alabama State Docks

Important Work Undertaken: Construction of additions to bulk-material handling plant, including an ore unloader with conveying belt system capable of handling 800 tons per hour, Mobile, Ala., $2,000,000 (20); construction of transport facilities, including dredging, pier and tracks, for 1,600,000-bu. grain elevator constructed by Alabama Grain Elevator Company, Mobile, Ala., $3,500,000 (75).

Terminal Railroad Assn. of St. Louis

Important Work Undertaken: Construction of mail-handling facilities, including a building, 121 ft. by 206 ft., containing sorting platforms and other facilities, a mail-car shed, 164 ft. by 420 ft., with an auxiliary shed, 32 ft. by 270 ft., containing loading and unloading platforms and convevor belts, and also including two bridges to carry mail conveyors across city streets, Union Station, St. Louis, Mo., $3,000,000 (25).

Union

Important Work Undertaken: Replacement of Turtle Creek viaduct, Turtle Creek, Pa., $2.500,000 (100).

Union Pacific

First Track: Hinkle, Ore., to Juniper, 17.15 miles (relocation).

Important Work Undertaken: Revision of alinement between Cheyenne, Wyo., and Laramie, and between Cheyenne, Wyo., and Speer, including construction of six passing tracks, $14,300,000 (5); installation of 114 miles of C.T.C., including changes in passing tracks, Marysville, Kan., to Hastings, Neb., $1,386,463 (5); construction of 17.15 miles of main line and a 1,130-car terminal yard, including engine terminal, oil facilities, and depot at Hinkle, Ore., replacing existing main line between Messner, Ore., and Juniper, $4,661,756 (100); relocation of 95,250 ft. of tracks, relocation of telegraph lines, application of ballast, and installation of color-light signals, Sand, Ore., to Attalia, Wash., and between Wallula, Wash., and Reese, $1,063,166 (100); construction of additional diesel-locomotive servicing facilities, including additional trackage, crew dispatchers' office, locker building, and other facilities, Los Angeles, Cal., $1,360,800 (20); installation of 78.6 miles of C.T.C., including track changes, Menoken, Kan., to Marysville, $1,596,076 (75); replacement of two-indication non-coded cab signals with three-indication coded cab signals and respacing of present color-light signals, North Platte, Neb., to Cheyenne, Wyo., $1,663,000 (50).

Wabash

Important Work Undertaken: Revision of grade and alinement, Baylis, Ill., to Barry, $1,548,856 (100); construction of yard, Decatur, Ill., $3,757,916 (50).

Western Maryland

Important Work Undertaken: Construction of 392-ft. extension to ore pier, including an additional ore crane, Port Covington, Md., $1,660,000 (27).

Western Pacific

Important Work Undertaken: Installation of C.T.C., including extension of sidings to 125-car capacity, Alazon, Nev., to Wendover, Utah, $1,970,500 (100).

Willamina & Grand Ronde

First Track: Gardiner Junction, Ore., to Gardiner, 3.50 miles, $600,000.

CANADA

Canadian National

First Track: Beaver River, Alta., to East Boundary, 3.66 miles.

Second Track: Through Portage La Prairie, Man., 1.84 miles; through Edmonton, Alta., 2.22 miles; in Port Mann, B. C., 0.16 miles.

New Road Under Construction: Sherridon, Man., to Lynn Lake, 155.00 miles.

New Road Under Survey: Linwood, N. S., to Strait of Canso, 14.50 miles; from Kitimat Arm, B. C., to point near Kitselas, B. C., 54.00 miles.

LOCOMOTIVE SHOPS—Servicing facilities such as this shop of the Kansas City Southern at New Orleans, La., comprised one of the largest classes of construction work during the past year

Important Work Undertaken: Car-shop facilities, including construction of a car-repair shop, paint shop, an extension to a stores building, extension to the work-equipment shop and incidental track work, Pointe St. Charles, Montreal, Que., $3,575,000 (90); construction of facilities for repair of diesel locomotives, including remodeling of the interior of the existing electric locomotive shop; construction of a 159-ft. by 166-ft. extension to existing locomotive shop, together with installation of a 100-ton drop table, five crossover bridges, a 35-ton overhead electric traveling crane with a 10-ton auxiliary, together with sanding facilities, dryers, cleaning equipment and incidental track work, Point St. Charles, Montreal, Que., $1,300,000 (5); improvement and expansion of track facilities in yard, Turcot, Montreal, Que., $2,350,000 (40); installation of C.T.C. on 147.84 miles of single track between Foleyet, Ont., and Hornepayne, $1,052,000 (100); construction of improvements to Central Station approach facilities, including extension of four stub tracks to form through tracks, necessitating the removal of five buildings, extension of subtrack area, South Plaza, completion of one street bridge and construction of a new double-track span across another street, and construction of an additional ladder track across a street, Montreal, Que., $4,000,000 (40); construction of freight-shed buildings, a general freight-office building, platforms, teamways, and team tracks, replacing freight-handling facilities destroyed by fire, Bonaventure station, Montreal, Que., $5,245,000 (65); revision of grade and alinement of two main-line passenger tracks and enlargement of yard, including installation of a communication system, construction of car-repair buildings, car-repair tracks, platforms, sewers and paving between tracks, Mimico, near Toronto, Ont., $3,580,000, (70); construction of new freight shed with adjoining office, additional trackage and rearrangement of existing tracks, Edmonton, Alta., $1,250,000 (80).

Canadian Pacific

First Track: North of Mattawa, Que., to Timiskaming, 36.90 miles; Halkirk, Alta., to 15 miles north, 15.00 miles.

Second Track: Mimico Cutoff, Ont., 1.80 miles.

Important Work Undertaken: Construction of new terminal yard, including additional track and miscellaneous facilities, St. Luc yard, Montreal, Que., $1,000,000 (100); construction at Windsor Street station, including increased baggage and express facilities, Montreal, Que., $1,700,000 (95); construction of facilities for maintaining, servicing, inspecting, fueling and storing diesel locomotives on the Algoma district, $1,034,500 (75); installation of absolute-permissive block signals, including necessary track changes on the Algoma district, $1,075,900 (100); construction of power plant consisting of three steam generators with a total capacity of 90,000 lb. of steam per hour to serve as a central heating plant for station, hotel, freight sheds and coach-yard trackage, Winnipeg, Man., $1,000,000 (100).

Ontario Northland

Important Work Undertaken: Construction of shop, including the facilities for serving diesel locomotives, North Bay, Ont., $1,000,000 (25).

Quebec, North Shore & Labrador

New Road Under Construction: Seven Islands, Que., to iron ore deposits at Knob Lake, Labrador, 358 miles.

Important Work Undertaken: Construction of single-track railway 358 miles long, including 20 to 25 sidings each one mile long, 25 steel bridges varying from 40 ft. to 705 ft. long, a 2,200-ft. tunnel, wharves with incidental facilities for transferring iron ore to ships, and various terminal facilities, $115,000,000 (20).

MEXICO

National Railways of Mexico

Important Work Undertaken: Construction of railway terminal, including a 14-story administration building, and a passenger station with modern facilities in the city, and a freight terminal in a new industrial district about 30 miles outside the city, Mexico City, Mex., $10,400,000 (started).

GENERAL NEWS

Munitions Board Issues Transportation Manual

The Office of Transportation of the Munitions Board has issued a "Manual of Organization."

The manual outlines the responsibilities and functions of the Office, and charts its organization. The chart shows that the Office has five divisions as follows: Rail; Water and Ports; Pipeline and Miscellaneous Transport; Highway; Air.

Functions of the Office are listed in fifteen numbered paragraphs, one of which notes that it "establishes in consonance with approved national transportation mobilization controls, basic transportation policies . . . for the Department of Defense to prevent the disposition and to assure the availability of transportation facilities essential to mobilization readiness, including such policies as are necessary for the guidance of the Military Traffic Service in its coordination of the traffic management activities within the United States of the military departments."

Pursuant to some of the other listed functions, the Office submits to civilian control agencies Department of Defense recommendations as to the "relative essentiality of military and civilian transportation production programs in order to assure the availability to the Department . . . of such commercial facilities as will provide the required freight and passenger transportation service"; reviews proposals for new and improved facilities and prepares the Department's position thereon; and reviews and analyzes proposed legislation affecting transportation and develops the Department's position on such legislation for presentation to Congress.

Colonel Charles H. Voeller of the Air Force is chief of the Office, and the deputy chief is William P. Guiler.

Year-End Reports Reflect Growth in Air Transport

Domestic scheduled air lines in 1951 carried an estimated 22,960,000 passengers for a total of 10.6 billion passenger-miles, Charles F. Horne, Civil Aeronautics Administrator, said in a year-end report.

These air carriers recorded 1.4 passenger fatalities per 100,000,000 passenger-miles, Mr. Horne reported. This 1951 figure compares with a fatality rate of 1.1 in 1950. Passengers carried on domestic air lines in 1951 increased 32 per cent over 1950, Mr. Horne said.

Dr. Lewis C. Sorrell, director of research of the Air Transport Association, reported in his year-end statement that commercial air transportation in 1951 "joined the ranks of the billion dollar industries."

Operating revenue was in excess of 21 per cent over 1950, Dr. Sorrell said. He noted that passenger traffic accounted for approximately 80 per cent of the $1,043,324,812 in total operating revenues for 1951.

Dr. Sorrell reflected a new approach to the federal tax on passenger travel.

"The U. S. scheduled air lines alone collected more than $67 million in transportation taxes for the federal government," he said. "This figure will probably substantially exceed the net operating profits of the domestic carriers, after payment of their anticipated income taxes."

Meanwhile, according to Mr. Horne, the government, up to December 1, 1951, had programmed $181,550,000 in federal funds for the federal aid airport program. Of the amount programmed, $163,530,000 had been put under contract, and funds had been granted to a total of 2,282 projects.

Highway Funds Apportioned

Apportionment of $500 million in federal aid to highways for the fiscal year beginning July 1, 1952, has been announced by Secretary of Commerce Sawyer. The funds were authorized by the Federal-aid Highway Act, approved September 7, 1950.

The act provides $225 million for projects on the federal-aid highway system, $150 million for projects on the federal-aid secondary system, and $125 million for projects on the federal-aid highway system in urban areas.

Funds will be expended under supervision of the Bureau of Public Roads. Federal participation in highway projects in most cases is limited to half the cost. This $500 million apportionment will be available for expenditure until June 30, 1955.

By state, the apportionment ranges from $2,052,966 for Delaware, upward to $30,724,302 for New York.

Mexico Continues Railroad Development

The new standard gage, heavy-duty rail line between Mexico City and Oaxaca (city) is expected to facilitate rapid movement of produce from agricultural areas in Mexico's southeastern states, as well as shipments of raw materials and finished products from manufacturing centers in central Mexico. Actual conversion to heavy-duty rail covers 700 km. (approximately 437 miles) between Puebla and Oaxaca, points previously connected only by a narrow gage line. Most of the line is now laid with 112-lb. rail, with 80- and 90-lb. rail in some sections.

According to unofficial sources, the budget of the National of Mexico for 1952 will include 20,000,000 pesos (approximately $2,315,000) for rehabilitation of its Monterrey division. It is planned to change the road over to 85-lb. rail in place of the present 50-lb. rail. Other work includes construction of a 42-km. (25-mile) line between Rio Bravo and San Fernando and replacement of all wooden bridges in the districts of Nuevo Laredo, Matamoros and Saltillo.

The government railway also plans construction of two repair yards — one for diesel-electric locomotives on the Monterrey-Gulf divisions, and the other for steam locomotives servicing other divisions of the central and southern systems.

Diesel facilities, probably to be located at San Luis Potosi, are planned to eliminate the necessity of sending such locomotives to the United States even for minor repairs, as has been the

"TEEPEE WILLIE"—the corporate "personality" of the Toledo, Peoria & Western for advertising purposes—was the brainchild of Arthur J. Miller (left), traffic representative in New York. At a recent staff meeting in the road's new office building at Peoria, Ill., President J. Russel Coulter presented Mr. Miller with the first three-dimensional version of his happy little Indian (inset)

practice up to now. When the new facilities are completed, it is expected that such locomotives will have to be returned to this country only for major overhauls. Some 200 diesels are expected to be in service in Mexico by mid-1952.

Rehabilitation of equipment and changeover to heavier rail is expected to result in faster service.

"Forum" to Seek More Rail Pension Money

An additional 10 per cent increase in pensions and retirement annuities will be sought by the National Railroad Pension Forum, Inc., as soon as Congress reconvenes.

Thomas G. Stack, president of the group said that this percentage figure represents the difference between the increase voted by Congress on November 1 and that originally requested by his group. He said that the forum would also ask the current House-Senate joint committee to "study the railroad retirement act to find ways and means to permit additional benefits without disrupting the financial soundness of the fund and without disturbing the present tax rate" and "to consider full retirement benefits for male workers at the age of 60 after 30 years of service, or after 35 years of service, regardless of age."

Mr. Stack said the group is seeking $180 monthly maximum, and $100 minimum retirement annuities. These to be not less than half salary or wages, not exceeding $300 per month based on the 5 highest years of earnings whether or not such years are consecutive. He said this plan would eliminate credit for service prior to 1937 and abolish the 1924-1931 computation of earnings which when added to earnings after 1937 "materially reduces the amount of the annuity."

Commenting on the recent transfer of railroad employees of less than 10 years service to the rolls of social security, Mr. Stack suggested that "further 'integration' between the railroad retirement and social security funds was the best possible answer to increasing rail retirement benefits."

Large Non-Scheduled Air Line Suspended by C.A.B.

The operating authority of New England Air Express, one of the so-called irregular or non-scheduled air carriers, has been suspended by the Civil Aeronautics Board. New England was described in the C.A.B. decision (in Docket No. 5182) as a "large" operator, and the operating authority involved is its letter of registration.

The suspension was based on the board's finding that New England had committed various acts "in disregard of the rights and welfare of the traveling public." Such practices not only violate C.A.B. rules, but they "retard public acceptance of air transportation," and "discourage its growth," the decision said.

It also stipulated that the suspension would continue "until the carrier demonstrates to the reasonable satisfaction of the board that it has the financial fitness, the managerial ability and willingness, and the necessary facilities and arrangements to operate as an irregular carrier. . . ."

ORGANIZATIONS

The 28th annual and 86th regular meeting of the **Atlantic States Shippers Advisory Board** will be held on January 16-17 at the Benjamin Franklin Hotel, Philadelphia. At a special luncheon, sponsored jointly with the **Traffic Club of Philadelphia** on January 17, **Ralph C. Champlin, vice-president, public relations,** of the Pennsylvania, will be the guest speaker.

The **Boston General Agents Council** will hold its regular monthly luncheon meeting at 12:15 p.m., Monday, January 21, at the Hotel Manger, Boston. The guest speaker will be S. M. Pinsley, president of the Sanford & Eastern, the Hoosac Tunnel & Wilmington and the Saratoga & Schuylerville.

The **Railway Business Woman's Association of Chicago** will hold its 26th annual dinner on January 19 in the Boulevard room of the Sheraton Hotel.

CAR SERVICE

I.C.C. Service Order No. 858, which places restrictions on the reconsigning of lumber, has been modified by Amendment No. 7, which set back the expiration date from December 31, 1951, until March 31, 1952.

I.C.C. Service Order No. 865, which imposes super-demurrage charges running up to $20 per day, has been modified by two additional amendments—Nos. 19 and 20. The first suspended, as of December 20, 1951, the order's provisions insofar as they applied to ore cars of A.A.R. mechanical designation HM, HMA, and HK. Amendment No. 20 extended for another month (until February 1, 1952) the exemption provision applicable to refrigerator cars, and liberalized provisions applicable to cars subject to so-called average agreements.

I.C.C. Service Order No. 866, which prescribes operating regulations for movement of freight cars, has been modified by Amendment No. 1, which set back the expiration date from last December 31 until March 31, 1952.

SUPPLY TRADE

George Verner has been elected president and a director of the **International Equipment Company,** Montreal, and its subsidiaries, **Industrial Equipment Company** and **Service Specialty Company.** He succeeds **Morton R. Ferguson,** who died on November 8, 1951. **E. W. Holden, A. Turner** and **A. N. Campbell** have been named vice-presidents. **A. T. Wilson,** formerly district manager at Toronto, has been appointed assistant vice-president in charge of the Toronto office.

A native of Stratford, Ont., Mr. Verner started his career as a machinist apprentice and later served in various positions in the shops of the Canadian Northern, the Grand Trunk Pacific and the Canadian Government railways. For

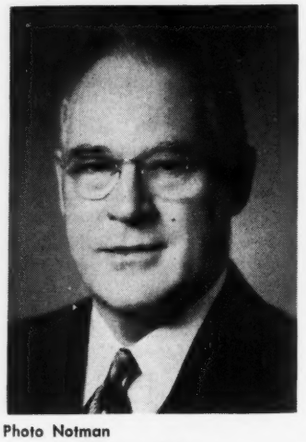


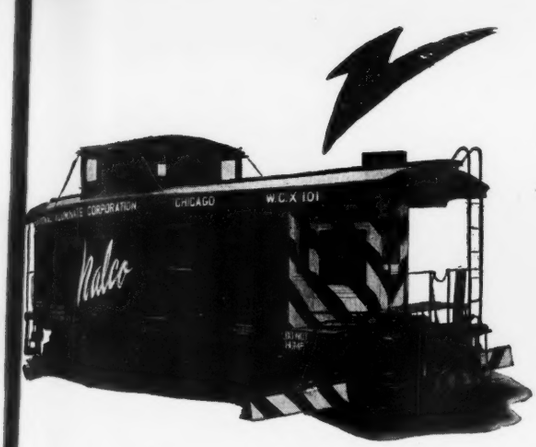
Photo Notman

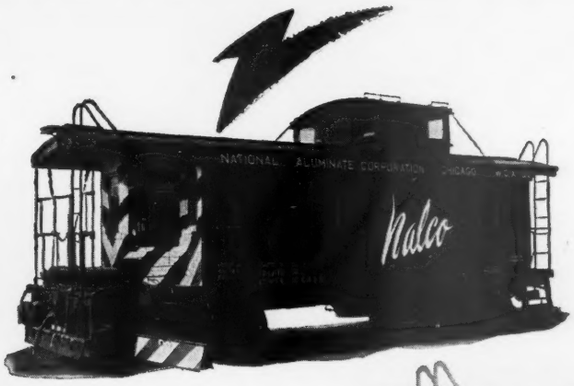
George Verner

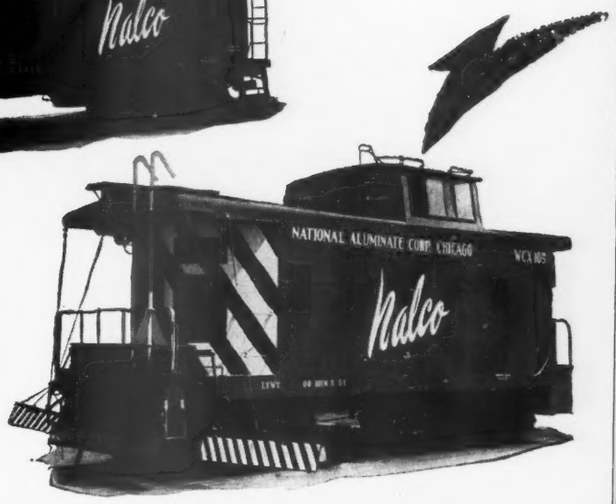
five years he operated the plant of the General Car Machinery Works at Montmagny, Que., first as superintendent and finally as works manager in charge of all operations, including steel foundries, rolling mills, forge shops and general machine and assembly shops. He has been associated with International Equipment and subsidiaries for 28 years, serving as district manager of the Toronto office for 20 years. He later became assistant vice-president at Montreal and at the time of his recent election was a director and executive vice-president. Mr. Holden, Mr. Turner and Mr. Wilson have been associated with the company for many years, while Mr. Campbell, formerly mechanical engineer of the Canadian National at Montreal, joined the company two years ago.

Laird H. Hansen has been appointed assistant sales manager of the Chicago district for **A. M. Castle & Co.,** Chicago. Mr. Hansen has been with the company since 1946.

John W. Schreiber retired as chief construction engineer of the **Aluminum Company of America** on January 1, but will serve until July 1







6 MORE REASONS for Nalco®

COMPLETE WEED and BRUSH CONTROL

Nalco Spray Cars, engineered to give precision chemical dosage and coverage, are added good reasons for using safe, powerful Nalco weed and brush control chemicals on your right-of-way.

Several Nalco formulas are available . . . specifics for grasses, weeds, annuals or perennials, and Nalco spray cars are equipped to spray two formulas simultaneously, when necessary, in correct proportions for effective control. Spray cars, each with precise metering and indicating equipment, are available without charge to railroads using Nalco weed control chemicals in tank car lots.

Write for data on spray car availability and Nalco chemicals to keep your right-of-way free of weeds and brush.

NATIONAL ALUMINATE CORPORATION
6200 West 66th Place • Chicago 38, Illinois
Canadian inquiries should be addressed to Alchem Limited, Burlington, Ontario

THE Nalco SYSTEM • Serving Railroads through Practical Applied Science

Six Nalco Spray Cars shown above have all gone into service within the past two years. Modern design, equipment and instrumentation assure maximum spraying control and labor-saving efficiency.

as a special consultant on construction. Mr. Schreiber has been with the company for 42 years. His successor as chief construction engineer is **L. B. Kuhns,** who was advanced from the position of general superintendent of construction.

Edward R. Anderson has been appointed president of the American Forge division, and **William E. Crocombe** has been made assistant to the chairman, of **American Brake Shoe Company.**

Mr. Anderson was a vice-president of the Brake Shoe & Castings and Kellogg divisions. He joined the company as an apprentice in 1930, after graduation from Yale University. He held several positions in the engineering and sales departments and has been located in San Francisco since 1941.

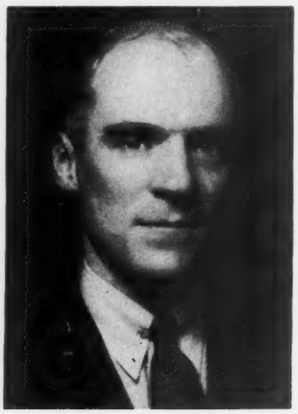
Mr. Crocombe, president of the American Forge division for 28 years, has reached normal retirement age, but will continue to be available for special assignments by the chairman of the board; he now has the assignment of building and starting operations of a new forging plant the company is erecting on the west coast. Mr. Crocombe joined the company in 1915, following several years in the steel and forging business. In addition to heading the American Forge division, he was president of the company's American Manganese Steel division from 1933 to 1940.

Edward R. Anderson

Pierre O. Wood has been appointed manager of service for the **General Steel Castings Corporation,** Granite City, Ill., succeeding **W. J. Taylor,** retired. A photograph and biographical sketch of Mr. Wood appeared in *Railway Age* April 9, 1951, when he received his previous promotion to assistant manager of service.

William A. Ehresman has been named director of purchases of the **Budd Company,** succeeding **Francis S. White,** who retired on December 31, after heading the purchasing department for 18 years. Mr. Ehresman came to Budd in 1923 and has spent virtually all the intervening years in various positions in the purchasing department. Since 1950 he has been assistant director of purchases.

William G. Miller, who has been elected executive vice-president and a director of the **Montreal Locomotive Works,** received his mechanical engineering degree in 1927 from Stevens Institute of Technology, and has had more than 25 years' experience in locomotive and oil refining equipment production. Formerly executive assistant to the president of the American Locomotive Company in New York, Mr. Miller assisted in setting up tooling programs for the new line of diesel locomotives introduced by the American Locomotive and General Electric Companies in 1945. As superintendent of Alco's diesel division at Schenectady, N. Y., he was in charge of both diesel locomotive and diesel engine manufacturing. From 1948 to 1950 he was manager of Alco's Auburn diesel engine plant. Earlier, from 1937 to 1939, he was in charge of the Alco Products office in Paris, supervising manufacture, installation and initial operation of oil refining plants in France. He is a son of Carroll Miller, for 16 years a member of the Interstate Commerce Commission.



William G. Miller

The **Pennsylvania Salt Manufacturing Company** has announced that **Sharples Chemicals, Inc.,** has been combined with it through an exchange of common stock. For the present the latter company will continue to operate as a separate unit of Pennsalt, with an exchange of technical information and coordination of policies.

Clarence B. Randall, president of the **Inland Steel Company,** has been designated chief executive officer. **Edward L. Ryerson,** chairman, whose office has previously carried top executive responsibility and who would normally have retired on January 1 under the company retirement policy, will continue as chairman, but in a consulting and advisory capacity. **Joseph L. Block** was elected executive vice-president and chairman of the finance committee. He has been vice-chairman and vice-president in charge of sales. **John F. Smith, Jr.,** who has been general manager of sales, was elected vice-president in charge of sales. **L. E. Block,** one of the founders of the company, who served as chairman of the board from 1919 to 1940 and chairman of the finance committee since that time, was elected honorary chairman of the board.

OBITUARY

Frank A. Watkins, associated with the Mather Stock Car Company for 38 years, died on December 23, 1951. Mr. Watkins began his career with the company as treasurer and later advanced through the positions of vice-president and president to become chairman of the board — the position he held at the time of his death.

William A. Irvin, former president of the United States Steel Corporation, died in New York on January 1, at the age of 78. He was a director and a member of the finance committee of United States Steel.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Northern Pacific's** 1952 equipment program calls for the construction of 1,000 box cars, 200 70-ton ore cars and 50 steel cabooses at the company's Brainerd, Minn., shops. In addition, 250 gondolas will be purchased from commercial car builders. The total cost of the program approximates $8.4 million.

8,458 Freight Cars Delivered in December

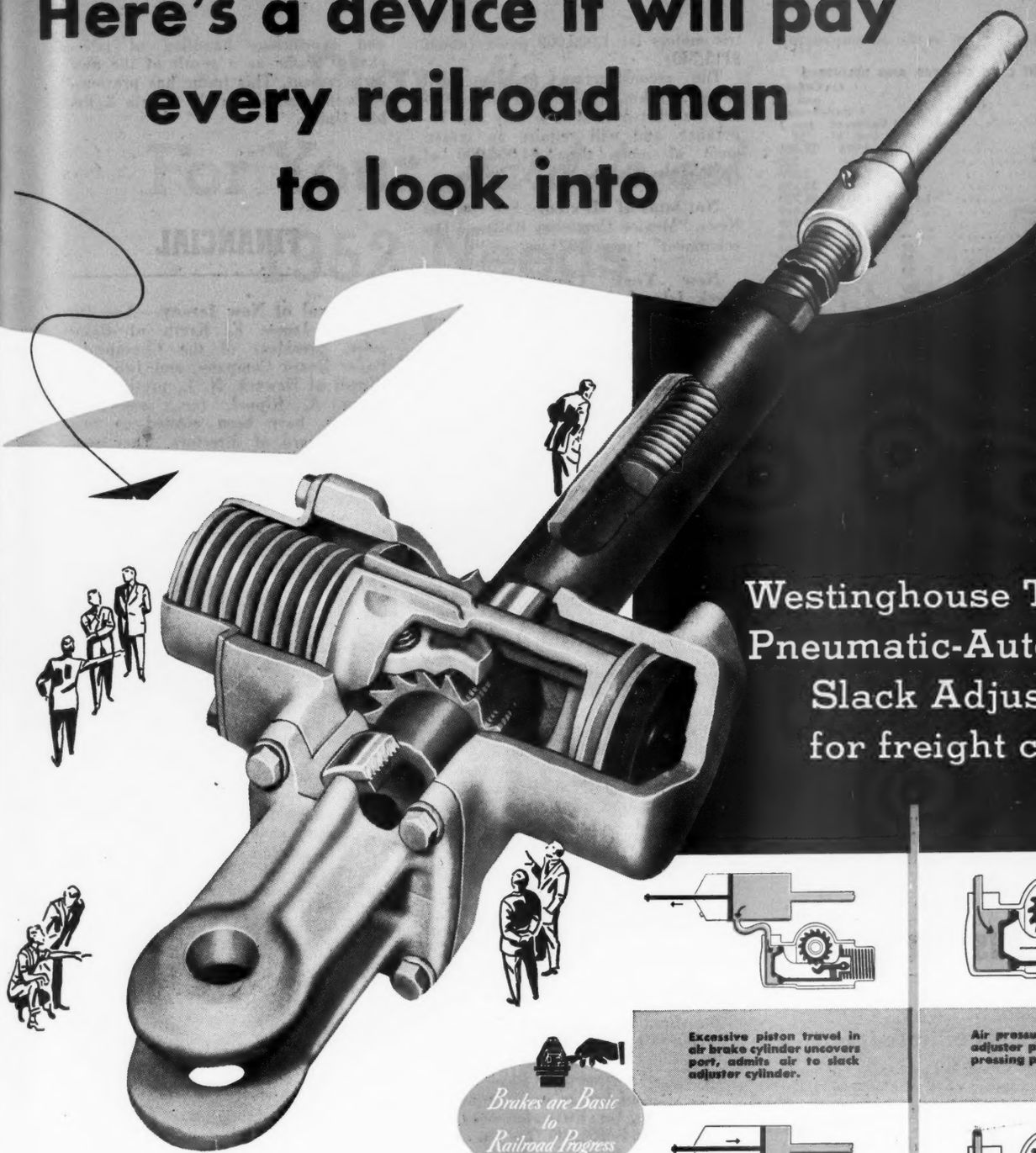
New domestic freight cars delivered in December 1951 totaled 8,458, compared with 5,700 in December 1950, and 9,824 in November 1951, the American Railway Car Institute and the Association of American Railroads have announced jointly. Deliveries for the full year 1951 were 95,943.

Orders in December for 3,309 new freight cars brought the year's total to 96,190. The backlog of cars on order on January 1, according to the announcement, was 123,947, compared with 129,158 on December 1 and with 124,489 on January 1, 1951.

Due to insufficient steel allocation by the National Production Authority, production averaged approximately 8,000 cars per month for the year and only in October did it reach the 10,000 cars per month goal established after outbreak of the Korean war.

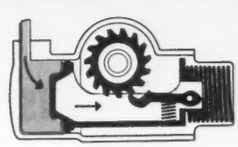
A breakdown of cars ordered and delivered in December and on order on

Here's a device it will pay every railroad man to look into

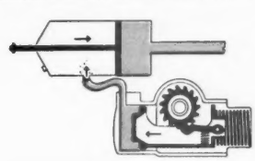


Westinghouse Type D Pneumatic-Automatic Slack Adjuster for freight cars

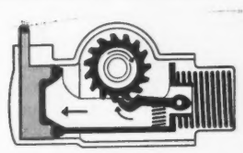
Excessive piston travel in air brake cylinder uncovers port, admits air to slack adjuster cylinder.



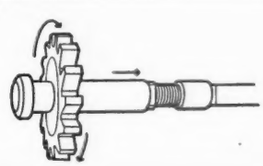
Air pressure moves slack adjuster piston back, compressing piston spring.



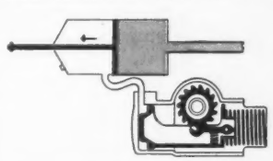
When brake is released, air in slack adjuster piston is vented. Piston spring returns slack adjuster piston.



Pawl on slack adjuster piston engages ratchet nut . . . advances it one notch.



Rotation of ratchet nut turns nut on tie rod, shortening the connection.



Process is repeated with each brake application until proper brake piston travel is established.

Brakes are Basic to Railroad Progress

Check what manual adjustment of brake rigging costs. Add the cost of delayed departures from make-up yards . . . and you'll see why the Type D will pay for itself in a hurry, pay *you* from then on. Check the construction and operational view . . . and you'll see why the Type D does the job so well and so long without attention or maintenance.

Westinghouse Air Brake Co.

AIR BRAKE DIVISION
WILMERDING, PA.

January 1 is given in the accompanying table.

FREIGHT CARS ORDERED AND DELIVERED

	Ordered Dec. '51	Delivered Dec. '51	On Order and Undelivered Jan. 1 '52
Box—Plain	1,160	2,995	37,481
Box—Auto	—	—	250
Flat	—	214	3,080
Gondola	616	1,991	23,898
Hopper	1,400	1,641	38,720
Cov. Hopper	—	329	4,849
Refrigerator	—	284	5,169
Stock	—	241	696
Tank	52	703	8,354
Caboose	50	10	480
Other	31	50	970
Total	3,309	8,458	123,947
Car Builders	2,769	5,678	80,495
Railroad and Private car line shops	540	2,780	43,452

SIGNALING

The **Chesapeake & Ohio** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to install C.T.C. on 30 miles of single track between Balcony Falls, Va., and Lynchburg. The new territory will be controlled from a 5-ft. addition to the style C control machine at Clifton Forge, Va., division headquarters. In addition to code and carrier equipment, the order includes style R-2 color-light signals, M-23A dual-control electric switch machines, SL-21 electric switch locks, relays, rectifiers, switch circuit controllers, and housings. Field installation will be handled by railway forces.

IRON & STEEL

The **Northern Pacific's** 1952 improvement program calls for an expenditure of $6.2 million for new rail and rock ballast for the main line.

CONSTRUCTION

Mexican Railway To Be Rehabilitated

One of Mexico's key trade and tourist rail routes — the Mexican Railway, between Mexico City and the port of Veracruz — will be completely rehabilitated during the next few months as part of the nationwide railway reconstruction program being financed in part with funds obtained from the Export-Import Bank of Washington, D. C.

The rehabilitation plan, according to an official of the National of Mexico, includes changing most of the route to heavy-duty 112-lb. rail; change of supporting girders; renovation of cables and accessories for overhead lines in the electric section; reinforcement and leveling of embankments, and improvement and replacement of equipment in yards at Apizaco and Orizaba. A power unit has been acquired for the electric substation at Maltrata for 2,500,000 pesos (about $289,350) and parts for electric motors for 1,000,000 pesos (about $115,740).

The reconstruction program will cover 245 km. (about 152 miles) of the road between Mexico City and Esperanza, and will require an investment of more than $4,000,000 of Eximbank credits.

National of Mexico.—See General News, "Mexico Continues Railroad Development" (page 227).

New York Central - Chicago, Rock Island & Pacific.—The present lunch room of the LaSalle Street station, Chicago, will be remodeled into a new restaurant. The ceiling will be lowered by construction of a mezzanine which will provide additional floor space for locker and rest rooms for the Union News Company, operators of the lunchroom.

New York, New Haven & Hartford.—The following projects have been authorized at the indicated probable costs: Track changes from Pawtucket, R. I., to Central Falls ($58,000); installation of two No. 15 crossovers at Attleboro, Mass. ($22,500); and rebuild bridge No. 54.37, Southwick, Mass. ($16.000.)

Northern Pacific. — Line changes near Bismarck, N. D., Cabinet Gorge, Idaho, and Superior, Wis., and completion of "daylighting" of Hoppers tunnel near Livingston, Mont., account for $630,000 of the 1952 construction program. New rail and rock ballast for the main line will cost $6.2 million and additions and improvements to shop and station facilities will cost an additional $2 million.

Reading.—A contract has been awarded to the Hauser Construction Company, Philadelphia, for reconstructing service buildings at Port Reading, N. J., at an estimated cost of $45,000.

Southern.—This road has awarded a $46,000 contract to G. W. Burtz, East Point, Ga., for reinforced concrete work in connection with replacement of an overhead bridge on Virginia avenue, Atlanta, Ga. Estimated total cost of the project is $68,000. The following projects have been authorized, at indicated probable costs: Extension to yard tracks, Dundee, Va. ($54,205); construction of one million-gal. diesel fuel oil storage tank, Andrews Yard, S.C. ($38,450); extension to passing track, Birdseye, Ind. ($31,000); and extension to storage track, Stevenson, Ala. ($28,403).

Toledo, Peoria & Western.—The I.C.C. has authorized this road and the Illinois Terminal to jointly construct and operate a 600-foot connecting track, together with about 350 feet of interchange trackage, at East Peoria, Ill. The new lines will provide a direct connection between the T.P. &W. and Terminal company. The two roads anticipate a more economical and expeditious handling of interchange traffic as a result of the new arrangement. This traffic has previously been handled via the Peoria & Pekin Union.

FINANCIAL

Central of New Jersey.—*New Directors.*—James E. Kreth of Baltimore, president of the Chesapeake Paper Board Company, and Julius A. Rippel of Newark, N. J., president of Julius A. Rippel, Inc., investment bankers, have been elected to this road's board of directors. They succeed John W. Kress of Verona, N. J., executive vice-president of the Howard Savings Institution of Newark, and William V. Griffin of Peapack, N. J., chairman of the board of the Brady Security & Realty Corp.

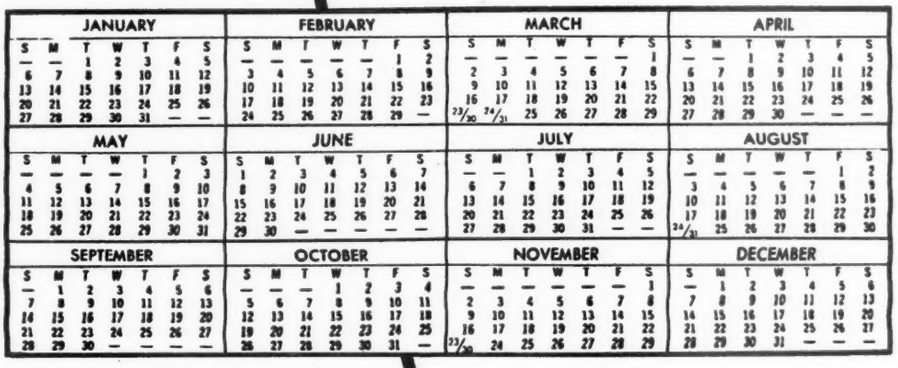
Chesapeake & Ohio.—*Trackage Rights.*—This road has asked the I.C.C. to approve a proposed new trackage rights arrangement at Chicago. The C.&O. would abandon present operations over about 11 miles of New York, Chicago & St. Louis tracks, from near Hammond, Ind., to 73rd Street in Chicago. Service via segments of the Erie, the Chicago & Western Indiana, and the Illinois Central, respectively, would be substituted for that abandoned. According to the road's application, the change would enable the C.&O. to provide more expeditious and efficient service to and from Chicago, and would result in savings of approximately $275,452 a year. The proposal involves only the road's Chesapeake district, and would not affect Pere Marquette district operations in and out of the city.

In connection with these changes, the C.&O. would also lease tracts at Burnham, Ill., from the Elgin, Joliet & Eastern and the Chicago South Shore & South Bend. Here the C.&O. proposes to construct yard tracks to help handle the road's increased volume of traffic at Chicago.

In addition to present facilities over the Nickel Plate having become inadequate because of a higher traffic volume, the C.&O. said the proposed trackage change is required because of "labor difficulties which now confront applicant in connection with its operations on the line of the Nickel Plate." The road said some employee organizations on the Nickel Plate have served notice that all work on the latter's tracks and yard facilities must be performed by employees of the Nickel Plate.

Chicago & Eastern Illinois.—*Acquisition.*—This road has applied to the I.C.C. for authority to acquire control of the Jefferson Southwestern, an 11.6-mile rail line between Mt. Vernon,

Plan *Now* For Your *Hard-to-get* 1952 Needs



JANUARY						
S	M	T	W	T	F	S
—	—	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	—	—

FEBRUARY						
S	M	T	W	T	F	S
—	—	—	—	—	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	—

MARCH						
S	M	T	W	T	F	S
—	—	—	—	—	—	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

APRIL						
S	M	T	W	T	F	S
—	—	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	—	—	—

MAY						
S	M	T	W	T	F	S
—	—	—	—	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	—	—	—	—	—

JULY						
S	M	T	W	T	F	S
—	—	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	—	—

AUGUST						
S	M	T	W	T	F	S
—	—	—	—	—	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

SEPTEMBER						
S	M	T	W	T	F	S
—	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	—	—	—	—

OCTOBER						
S	M	T	W	T	F	S
—	—	—	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	—

NOVEMBER						
S	M	T	W	T	F	S
—	—	—	—	—	—	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

DECEMBER						
S	M	T	W	T	F	S
—	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	—	—	—

THE
SUPERHEATER CO., INC.
Division of
COMBUSTION ENGINEERING-SUPERHEATER, INC.
200 Madison Ave., NEW YORK 16
Bankers Building, CHICAGO 3
Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

ELESCO

Analyze your requirements for maintaining *that* steam power still in service; Castings *particularly for* ..... superheaters, throttle parts, injectors, *etc.*

What about plant *and shop requirements* for small, compact, automatic *steam generators* ready to install and produce steam *in three* minutes? Perhaps larger capacity *boilers and stokers* are up for consideration?

This company *designs and builds a wide* variety of steam and component *products* ...ask for particulars.

Ill., and Nason. Present owner of the line is the Zeigler Coal & Coke Co., and the C.&E.I. would pay $85,000 for the 5,000 shares of J.S. stock outstanding. If the I.C.C. authorizes this acquisition, the C.&E.I. says it would offer to sell a one-third interest in the short line to both the Illinois Central and the Missouri Pacific. There are substantial coal reserves in the area served by the J.S. The C.&E.I. believes its acquisition of the line would make the coal more available to coal using plants along the Ohio and Tennessee rivers.

Chicago, Burlington & Quincy.—*New Director.*—George M. Foster, president of John Morrell & Co., meat packers, Ottumwa, Iowa, has been elected a director to succeed his brother, the late T. Henry Foster.

Chicago, Burlington & Quincy.—*Trackage Rights.*—An extension of the agreement under which this road operates over approximately 23.7 miles of Union Pacific trackage, between Sterling, Colo., and Union, has been authorized by the I.C.C. The former agreement, dating from 1900, expired September 14, 1950. The new agreement would continue in effect most provisions of the old one, and the segment will continue as a part of the Burlington's main line between Denver, Colo., and Billings, Mont. The I.C.C. authorized extension of the agreement to the year 2000.

Cotton Plant-Fargo Railway.—*Operation.*—This newly formed railroad company has applied to the I.C.C. for authority to acquire and operate a 6-mile rail line between Cotton Plant, Ark., and Fargo. The segment is a part of the Helena & Northwestern, abandonment of which has been authorized by the I.C.C. The new company would pay $47,000 for the segment, and would finance the purchase through issuance of $12,600 in common stock, a $25,000 first mortgage, and a cash advance from the stockholders. The line connects with the St. Louis Southwestern at Fargo. David D. Bush is president of the new company.

Dallas Terminal Railway & Union Depot Co.—*Bond Extension.*—This company is seeking authority from the I.C.C. to extend the maturity date on $731,000 of its first mortgage, 5 per cent gold bonds. The bonds, owned by the St. Louis Southwestern, were scheduled to mature January 1, 1952, but would be extended to July 1, 1990. The depot company said it was unable to pay off the bonds when due, and the St.L.S. is willing to have them extended.

Detroit, Toledo & Ironton.—*Control of Springfield Suburban.*—Acquisition of control of the Springfield Suburban by the D.T.&I., through ownership of one-half the former's capital stock, has been approved by the I.C.C. The S.S. is a switching terminal line at Springfield, Ohio, and the transaction is expected to provide more efficient and effective attention to local needs. The Erie, D.T.&I., and New York Central all have direct connection with the suburban line. The Erie owns the other one-half of its capital stock. The Pennsylvania Company, a co-owner of the D.T.&I., now owns the block of stock which the D.T.&I. will acquire. A total of 2.550 shares are involved, for which the D.T.&I. will pay $39.31 per share.

Duluth, South Shore & Atlantic.—*New Director.*—Alex. D. Chisholm, general manager of Pickands, Mather & Co., Duluth, Minn., has been elected a director of the D.S.S.& A.

Illinois Central.—*Air Rights Sale.*—For 143,000 sq. ft. of air rights over Illinois Central terminal trackage near the lake front opposite Chicago's "Loop" district, the Prudential Insurance Company has paid the I.C. a total of $2,270,315. The insurance company also paid the Michigan Central $4,563,000 for 16 acres of adjoining land extending northward to the Chicago river. Most of this land will be leased back to the M.C. for continued use as a freight terminal and storage yard. The remaining land obtained by the insurance company will

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 127 reports (Form IBS) representing 131 steam railways

(Switching and Terminal Companies Not Included)

Income Items	United States For the month of August 1951	1950	For the eight months of 1951	1950
1. Net railway operating income	$80,881,473	$122,343,183	$513,636,127	$556,537,130
2. Other income	17,340,841	17,949,272	150,454,067	147,394,513
3. Total income	98,222,314	140,292,455	664,090,194	703,931,643
4. Miscellaneous deductions from income	4,606,686	4,151,019	37,819,921	30,610,923
5. Income available for fixed charges	93,615,628	136,141,436	626,270,273	673,320,720
6. Fixed charges:				
6–01. Rent for leased roads and equipment	9,622,102	11,317,356	75,108,809	77,593,411
6–02. Interest deductions[1]	25,114,058	25,138,673	199,299,147	200,383,131
6–03. Amortization of discount on funded debt	272,907	231,349	1,888,830	1,755,096
6–04. Total fixed charges	35,009,067	36,687,378	276,296,786	279,731,638
7. Income after fixed charges	58,606,561	99,454,058	349,973,487	393,589,082
8. Other deductions	3,109,639	3,287,844	24,986,027	25,509,100
9. Net income	55,496,922	96,166,214	324,987,460	368,079,982
10. Depreciation (Way and structures and Equipment)	38,064,525	36,188,341	295,577,320	282,848,692
11. Amortization of defense projects	4,236,294	1,375,853	29,864,966	10,967,467
12. Federal income taxes	55,911,400	73,936,424	326,588,826	262,023,216
13. Dividend appropriations:				
13–01. On common stock	24,558,491	21,812,179	137,512,763	108,315,936
13–02. On preferred stock	5,708,086	7,076,227	67,501,379	45,295,838
Ratio of income to fixed charges (Item 5 ÷6 -04)	2.67	3.71	2.27	2.41

Selected Expenditure and Asset Items	United States Balance at end of August 1951	1950
17. Expenditures (gross) for additions and betterments—Road	$216,619,039	$169,355,480
18. Expenditures (gross) for additions and betterments—Equipment	653,327,067	497,286,306
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	471,974,757	463,212,521
20. Other unadjusted debits	118,791,246	108,221,060
21. Cash	837,837,024	971,309,507
22. Temporary cash investments	889,213,162	942,593,485
23. Special deposits	66,234,793	101,668,733
24. Loans and bills receivable	2,141,061	1,043,706
25. Traffic and car-service balances—Dr.	61,343,920	59,696,110
26. Net balance receivable from agents and conductors	159,712,026	156,176,701
27. Miscellaneous accounts receivable	379,726,532	305,653,265
28. Materials and supplies	911,618,907	701,293,132
29. Interest and dividends receivable	13,816,979	13,437,040
30. Accrued accounts receivable	222,485,012	207,187,280
31. Other current assets	34,872,223	35,266,582
32. Total current assets (items 21 to 31)	3,579,001,639	3,495,325,541
Selected Liability Items		
40. Funded debt maturing within 6 months[2]	$155,380,330	$147,129,250
41. Loans and bills payable[3]	6,212,471	2,816,869
42. Traffic and car-service balances—Cr.	103,545,943	104,032,644
43. Audited accounts and wages payable	571,598,392	528,680,603
44. Miscellaneous accounts payable	198,464,780	199,985,803
45. Interest matured unpaid	21,698,039	22,670,572
46. Dividends matured unpaid	9,526,176	8,085,375
47. Unmatured interest accrued	83,226,410	83,272,127
48. Unmatured dividends declared	46,617,270	41,664,542
49. Accrued accounts payable	233,945,217	185,519,394
50. Taxes accrued	860,411,356	704,825,535
51. Other current liabilities	92,959,092	94,693,868
52. Total current liabilities (items 41 to 51)	2,228,205,146	1,976,247,332
53. Analysis of taxes accrued:		
53–01. U. S. Government taxes	660,278,446	514,912,871
53–02. Other than U. S. Government taxes	200,132,910	189,912,664
54. Other unadjusted credits	287,630,571	277,923,520

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.

Can you match Inland Steel's performance in materials handling?

If yours, too, is *big production* business, why not profit by the experience of Inland Steel? Here, big jobs involve big money; and the systems that stay are those that deliver *highest production*.

This year Inland expects to produce about 4,500,000 tons of ingots. To handle the heaviest lifting jobs connected with that output—to handle scrap, ore, limestone and coal within the 650 acre works at Indiana Harbor—Inland depends upon American Locomotive Cranes.

Why? Because American Locomotive Cranes can move loads that lighter equipment couldn't budge. Because they can swing, lift and travel all at once. Because their upkeep cost is unbelievably low. Because they are *completely modern* one-man machines, as different from early steam cranes as the jet plane is different from the Jenny.

Before you buy any lifting, loading or switching equipment, get comparative figures on American Locomotive Cranes. For big production, they are *always* your best buy!

Modernize...economize...with

American Hoist
& Derrick Company
ST. PAUL 1, MINNESOTA

For the BIG PRODUCTION jobs of industry...

AMERICAN LOCOMOTIVE CRANES

2601 69

be used as the site for the proposed $40 million "Mid-America" office building which the company plans to build when materials are again available. (*Railway Age,* September 24, 1951, page 73, and March 12, 1951, page 92.)

Illinois Central.—*New Director.*—Hugh M. Comer, of Birmingham, Ala., president and treasurer of Avondale Mills, Sylacauga, Ala., has been elected a director, to succeed Oscar G. Johnston, of Greenville, Miss., who has resigned because of ill health.

Lehigh Valley.—*New Director.*—James A. McConnell, general manager of the Grange League Federation, Ithaca, N. Y., has been elected to this road's board of directors.

Minneapolis & St. Louis.—*New Director.*—Elbridge T. Gerry, assistant manager of Brown Bros. Harriman & Co., private bankers, has been elected to this road's board of directors to succeed S. Bayard Colgate, chairman of the Colgate-Palmolive-Peet Company, who resigned.

Minneapolis, St. Paul & Sault Ste. Marie.—*New Director.*—Henry H. Westlie, president of the Westlie Motor Company, of Minot, N. D., became the first Soo Line director to come from his state when he was recently elected to fill the vacancy created by the death of Arthur H. Quay.

Rutland.—*Purchase.*—Division 4 of the I.C.C. has approved this road's application for authority to acquire all properties of the Addison Railroad, a 3-mile line between Leicester Junction, Vt., and Whiting. The Rutland already owns all the Addison stock, and operates the line under long-term lease. The present transaction will result in cancellation of Addison stock, and will simplify the corporate structure of the Rutland by elimination of a wholly owned subsidiary.

St. Louis, Brownsville & Mexico.—*Trackage Rights.*—Division 4 of the I.C.C. has tentatively approved this road's application for authority to operate over approximately 8.3 miles of Brownsville Navigation District trackage at Brownsville, Tex. Before the authorization can become final, this road and the navigation district must agree that their arrangement will not preclude the Texas & New Orleans from jointly using the port area trackage, should the T.&N.O. eventually gain access to the area. At present its own tracks are about six miles from those of the navigation district. The agreement between the district and the St.L.B.&M. is dated December 27, 1950, and would continue in force until December 31, 1960.

St. Louis Southwestern of Texas.—*Bond Extension.*—A request for permission to extend the maturity date on $280,000 of Dallas branch first mortgage bonds has been filed with the I.C.C. by this road. The bonds, bearing interest at 5 per cent, were scheduled to mature January 1, 1952, but the road would extend the maturity date to July 1, 1990. The road said it could not pay off the bonds at this time, and added that the owner, St. Louis Southwestern, does not desire payment.

Seaboard Air Line.—*Sale of Stock.*—Division 4 of the I.C.C. has extended until April 30, 1952, the time within which this road may sell all the preferred stock and common stock authorized in its reorganization plan. The amount that will remain in the hands of the scrip agent after April 1, 1952, when the scrip becomes void, cannot be known until after that date. The road asked for the 30-day extension to give it time to sell such stock as does remain. It is expected the amount will be small.

Tennessee Railroad.—*Bond Extension.*—Division 4 of the I.C.C. has authorized this road to extend the maturity date of its first mortgage bonds from February 2, 1952, to February 2, 1967. The division found the road would be unable to pay off the bonds on their present maturity date. The bonds are outstanding in the amount of $848,500.

Wichita Falls & Southern.—*Securities Modification.*—The I.C.C. has dismissed "without prejudice," at the company's request, this road's application for authority to modify its securities under the so-called Mahaffie Act (Section 20b, Interstate Commerce Act).

Wichita Falls & Southern.—*Bond Extension.*—Division 4 of the I.C.C. has authorized this railway company to extend, from January 1, 1948, to January 1, 1958, the maturity date on $725,000 of the company's first mortgage five per cent gold bonds. Meanwhile, the Wichita Falls & Southern Railroad, which acquired the railway company in 1940, has been authorized to assume liability for the extended bonds. The railroad company will extend its own $265,000 secured promissory note from January 1, 1948, to January 1, 1958; and will continue to pledge, as security for the note, $2,021,000 of its first mortgage and collateral lien bonds. The railroad company has been unable to pay off the railway bonds or the note, Division 4 said. There is substantial unpaid interest on both.

New Securities

Application has been filed with the I.C.C. by:

ILLINOIS NORTHERN.—To issue promissory notes totaling $550,000, to the four railroads which own I.N.'s capital stock. The notes would be in exchange for advances which the four owning roads made to the I.N. in connection with the latter's acquisition of new equipment in 1951. This equipment consisted of six 1,000-hp. diesel-electric switching locomotives. The notes, with interest at 2 per cent and 15-year maturity would be as follows: $280,500 to the Atchison, Topeka & Santa Fe; $137,500 to the Chicago, Burlington & Quincy; and $66,000 each to the Pennsylvania and the New York Central. The four roads own proportionate amounts of I.N. capital stock.

OAHU RAILWAY & LAND CO.—To issue 56,960 shares of $20 par common stock as part of a merger plan under which this company would absorb Young Brothers, a firm operating tugs and barges between points in Hawaii. Oahu seeks authority to issue 60,000 shares, but 3,040 of these would not actually be issued. The remainder would go direct to stockholders of Young Brothers in exchange for their holdings. Oahu was authorized to abandon most of its rail line in 1947, but continues to operate 2.07 miles, including switching facilities and tracks connecting with piers at Honolulu.

Dividends Declared

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—common, $5, semiannual; 5% preferred, $1.25, quarterly, both payable January 31 to holders of record January 12.

PHILADELPHIA & TRENTON.—$2.50, quarterly, payable January 10 to holders of record December 31.

WESTERN NEW YORK & PENNSYLVANIA.—common, $1.50, semiannual; 5% preferred, 1.25, semiannual, both payable January 2 to holders of record December 31, 1951.

Security Price Averages

	Jan. 7	Prev. Week	Last Year
Average price of 20 representative railway stocks ..	55.22	54.39	55.79
Average price of 20 representative railway bonds...	91.52	90.92	98.55

RAILWAY OFFICERS

EXECUTIVE

As reported in *Railway Age* December 17, **Walter W. Patchell** has been appointed vice-president—real estate and taxation of the PENNSYLVANIA at Philadelphia. Mr. Patchell was born at Philadelphia on November 28, 1897, and was graduated from Pennsylvania State College (B.S. in C.E. 1919). He entered railroad service in 1915 as draftsman with the Pennsylvania during summer vacations while attending college. He rejoined the road in 1920, serving successively as division en-

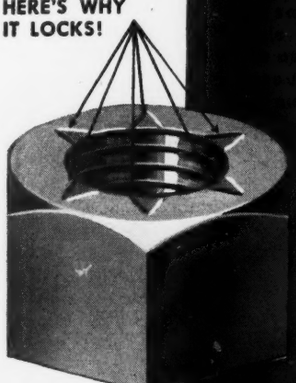
Arthur E. Baylis, general freight traffic manager of the New York Central System, has been appointed to the new position of assistant vice-president, freight traffic, with headquarters as before at New York

THE
RAILR

GRIPCO

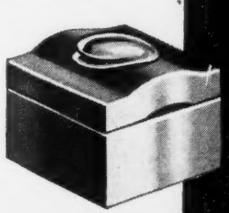
LOCI
NUT

HERE'S WHY
IT LOCKS!



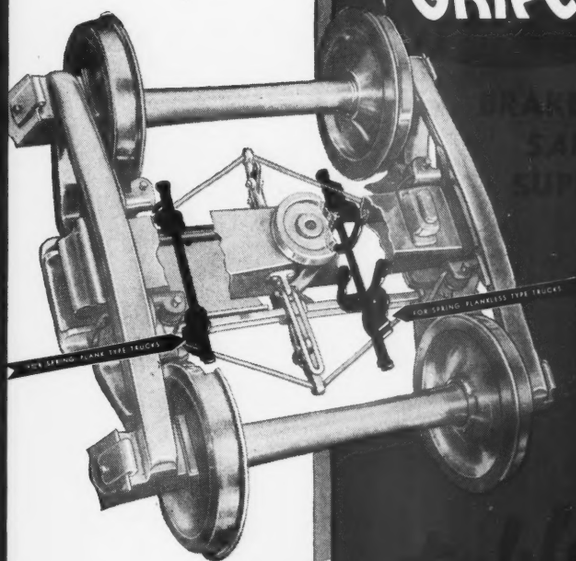
The RAILRO
ideal replace
—advanced

GRIP L



GRIP H
NUT #2

speedy app
locks by fin
LOCKING-
of single la



Now Ad
to All Br

Universal
BRAKE BEAM
SAFETY SUPPORT

GRIPCO

NUT COMPANY
310 SOUTH MICHIGAN AVE.
CHICAGO 4, ILLINOIS

gineer, superintendent of passenger transportation, superintendent of various divisions and general superintendent at Cleveland and Harrisburg. In 1942 he became assistant to vice-

Walter W. Patchell

president—operation, and in October 1946 he was appointed general manager at Chicago, transferring to Pittsburgh in June 1948.

Martin W. Clement, chairman of the board of the PENNSYLVANIA at Philadelphia, retired under the regulations of the company on December 31, 1951, after over 50 years of continuous service. He was president of the road from April 24, 1935, to June 16, 1949.

James P. Newell has been appointed vice-president—operation of the PENNSYLVANIA at Philadelphia, as reported in *Railway Age* December 17. Mr. Newell was born at Carthage, Mo., on September 18, 1902, and received his civil engineering degree from Princeton University in 1924. He

James P. Newell

joined the Pennsylvania in 1927 as an assistant on engineer corps on the Pittsburgh division, serving as supervisor of track and division engineer at various locations until 1940, when he became superintendent of the Logansport division. He was subsequently superintendent at St. Louis, superintendent freight transportation at Chicago, and general superintendent at Indianapolis and Harrisburg, and in June 1948 was appoined general manager of the Western region at Chicago. In June of this year he was advanced to assistant vice-president—operation and now assumes the road's top operating post.

W. A. Reiter has been appointed assistant to vice-president in charge of operation of the PENNSYLVANIA at Philadelphia.

Alfred D. Wolff, Jr. assistant vice-president of the NEW YORK CENTRAL at New York, retired on December 31, after more than 40 years with that company. Mr. Wolff was born at Tremont, Pa., 67 years ago and received a bachelor of science degree in civil engineering from the University of Pennsylvania in 1907. He joined the N.Y.C. in 1910 as a drafts-

Alfred D. Wolff, Jr.

man and became an assistant engineer in 1912. After a succession of promotions he was appointed assistant vice-president in 1949. Mr. Wolff was associated with many railroad engineering improvements in the New York-Albany territory, including various Hudson division track improvements, the Castleton cutoff and the West Side improvement.

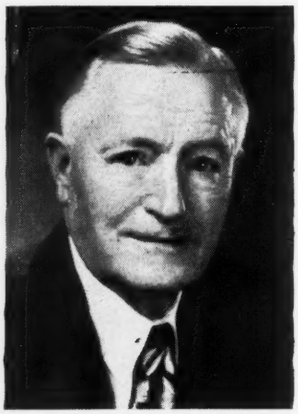
Edwin S. Rupp, assistant to general manager of the BALTIMORE & OHIO at Pittsburgh, has been appointed assistant to vice-president, operation and maintenance, at Baltimore, succeeding **John H. Hande,** who has retired after almost 47 years of railroad service. Mr. Rupp joined the B.&O. in 1913 in the accounting department at Garrett, Ind., and later served as assistant division accountant and division accountant at Pittsburgh. He became assistant to general manager in 1944.

Mr. Hande was born at Park Ridge, Ill., and studied engineering at the University of Wisconsin. From 1905 to 1911 he was assistant engineer with the Chicago & North Western and an inspector in the rehabilitation of the Chicago street railways. He then served as division engineer with the Duluth, Winnipeg & Pacific (Canadian National) on construction from the Iron Range into Duluth, Minn., and also was engaged in valuation of that road's properties for the state Railroad & Warehouse Commission.

Edwin S. Rupp

Mr. Hande joined the B. & O. in January 1917 as assistant engineer on federal valuation of its Chicago Terminal properties. He became special engineer on the staff of the chief engineer, Western lines, at Cincinnati in August 1918; improvement engineer at Baltimore in 1920; auditor of capital expenditures in October 1939; and assistant to vice-president, operation and maintenance, in June 1946.

H. P. Henshaw, vice-president (real estate) of the CHESAPEAKE & OHIO at Huntington, W. Va., retired on December 31, 1951. Mr. Henshaw was born at Bunker Hill, W. Va., in



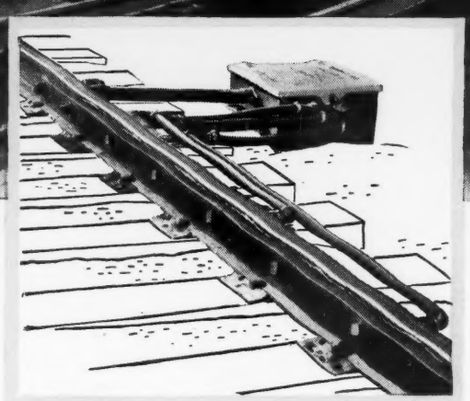
H. P. Henshaw

1886 and attended Shepherd College and the University of West Virginia engineering school. He was elected to the House of Delegates of West Virginia in 1916 and to the State Senate in 1920, resigning from the latter in 1931 to join the West Virginia Road

Racor model 4000-A

RAIL LUBRICATORS

(Patented)



Effectively reduce curve resistance and wheel flange wear on the scenic Denver & Rio Grande Western

The improved RACOR Model 4000-A Rail Lubricator is specially designed to retard wear of track structures and car wheels. It is an important contribution toward the reduction of high maintenance costs of equipment and track. Increased tonnage ratings are obtainable in mountain territories by curve lubrication. Racor Rail Lubricators facilitate the control of more uniform movement of cars in classification yards thereby reducing damage to equipment and lading.

It will pay you to investigate the RACOR Model 4000-A Rail lubricator. Write today for complete descriptive circular.

"USE RACOR SPECIAL TRACKWORK WHERE STRESS AND STRAIN ARE GREATEST"

AMERICAN Brake Shoe COMPANY

RAMAPO AJAX DIVISION

109 North Wabash Avenue, Chicago 2, Ill.

America's most complete line of track specialties

AUTOMATIC SWITCH STANDS

VERTICAL SWITCH RODS

SAMSON SWITCH POINTS

SWITCH POINT LOCKS

RAIL LUBRICATORS

ADJUSTABLE RAIL BRACES

DEPTH HARDENED CROSSINGS

REVERSIBLE MANGANESE STEEL CROSSINGS

MANGANESE STEEL GUARD RAILS

RACOR

Commission, where he served until 1933. He was secretary of the West Virginia Railway Association prior to joining the C.&O. in January 1936 as assistant to vice-president in charge of taxation and real estate. In October 1937 he was advanced to assistant vice-president and in March 1939 became vice-president.

G. B. Wall, Jr., assistant to vice-president of the CHESAPEAKE & OHIO, has been transferred from Huntington, W. Va., to Richmond, Va., and henceforth his office will be under the jurisdiction of the law department.

Neil D. Hyde, assistant to vice-president of the NEW YORK CENTRAL SYSTEM, has been appointed assistant vice-president, with headquarters as before at New York. **Augustus Hart,** general manager at Syracuse, N. Y., has been appointed assistant vice-president, operations and maintenance, at New York. **Richard G. May,** assistant to vice-president, operations and maintenance, has been appointed assistant vice-president, operations and maintenance, with headquarters as before at New York. A biography and photograph of Mr. May were published in *Railway Age* March 26, 1951, page 72.

Mr. Hyde was born at Afton, N. Y., and was graduated from Union College. He joined the engineering department of the N.Y.C. in 1922 at Selkirk, N. Y. In 1933 he transferred to the chief engineer's office at New York and became assistant to chief engineer at Chicago in 1944. In 1945 he was promoted to assistant to vice-president

Neil D. Hyde

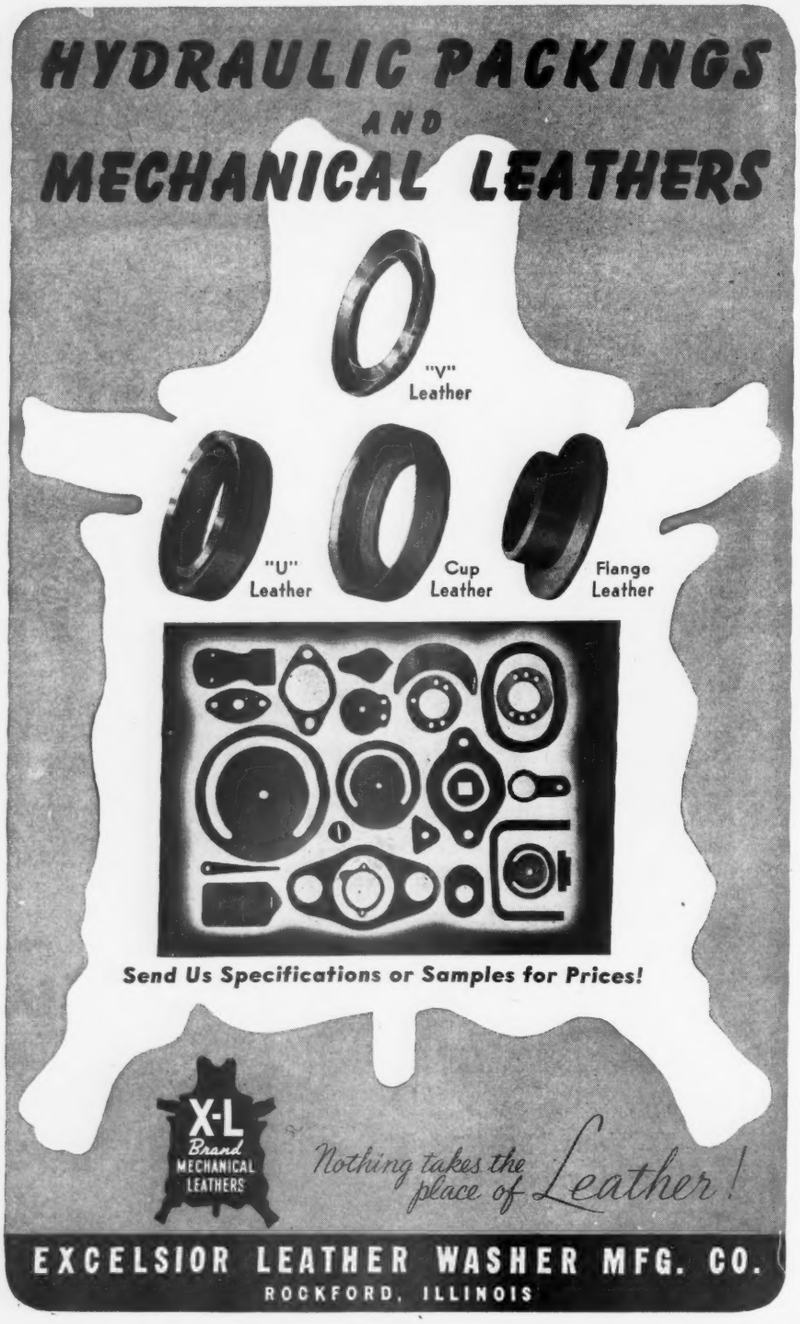
there and on January 1, 1951, transferred to New York.

Mr. Hart was born at Cardiff, Wales, in 1897, and joined the N.Y.C. in 1917 at Cleveland, as a stenographer in the superintendent's office. He was appointed trainmaster at Toledo in 1936, assistant superintendent at Erie

Augustus Hart

in 1942 and superintendent at Cleveland in 1945, transferring to Albany in 1947. Mr. Hart became assistant general manager of the Boston & Albany in 1948 and, after being general manager of the B.&A. briefly in 1949, was appointed general manager at Syracuse in April 1949.

K. P. Chinn has been appointed to the newly created position of assistant executive vice-president of SOUTHERN PACIFIC LINES IN TEXAS AND LOUISIANA. Mr. Chinn started his railroad career with the S.P. as a clerk in the commissary department at Houston, Tex., in 1912. He served successively as construction clerk, timekeeper, division accountant, division storekeeper, traveling



storekeeper, assistant general storekeeper, and trainmaster at Jacksonville, Tex. In 1937, Mr. Chinn was appointed assistant superintendent at Ennis and in 1942 was made assistant purchasing

K. P. Chinn

agent at New Orleans. He served as purchasing agent from 1945 until his transfer to Houston in 1948 as assistant to the executive vice-president.

Fred A. Burroughs, Jr., chief personnel officer of the SOUTHERN SYSTEM, has been appointed assistant vice-president, personnel, with headquarters remaining at Washington, D. C., succeeding **C. D. Mackay,** assistant vice-president, who has asked to be relieved of his duties in connection with personnel. Mr. Mackay will continue to handle matters relating to joint facilities and other assignments given him by the vice-president—operation.

Fred A. Burroughs, Jr.

FINANCIAL, LEGAL & ACCOUNTING

L. O. Humphreys, secretary and assistant treasurer of the ST. LOUIS-SAN FRANCISCO, has been appointed treasurer, succeeding **Roy M. Culp,** who has retired from his position of treasurer and assistant secretary. **C. C. Kratky,** assistant to the president,

(Continued on page 244)

MORE THAN A FIRE LOSS

. . . a costly tieup all along the line

. . . a costly repair job coming up

. . . future loss in operating revenue during this Diesel's time down

Prevent these losses!

INSTALL PYRENE DIESEL FIRE-FIGHTING SYSTEMS

First Choice **OF AMERICA'S RAILROADS**

Pyrene Air Foam

T.M. Reg. U.S. Pat. Off.

PYRENE MANUFACTURING COMPANY

678 Belmont Avenue, Newark 8, New Jersey

Affiliated with C-O-Two Fire Equipment Co.

Pyrene Manufacturing Co. of Canada, Limited: 91 E. Don Roadway, Toronto

The Pyrene Company, Limited: 9 Grosvenor Gardens, London, S.W. 1

For complete service on cross ties

KOPPERS

WHETHER you supply your own ties for pressure-treatment by Koppers or whether you buy your pressure-treated ties directly from Koppers, you can take advantage of complete cross tie service.

When Koppers pressure treats your ties, you get a "one-stop", complete job, including storage for seasoning, pressure treatment and storage after treatment. Treated ties are then available for immediate shipment to meet your requirements.

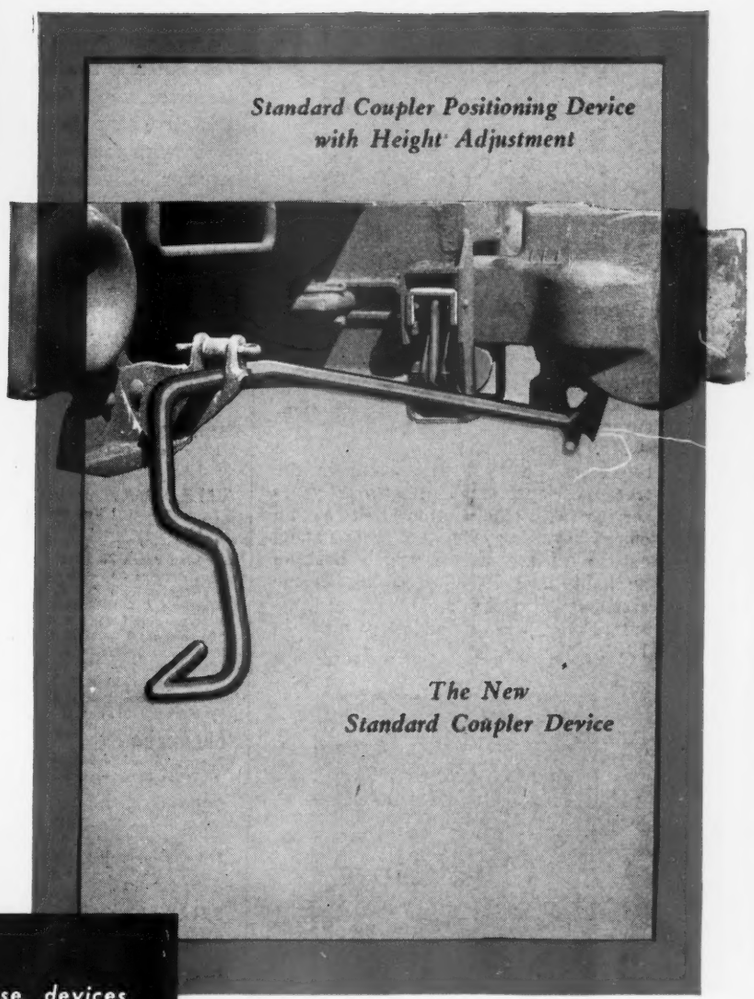
Koppers also maintains its own complete stocks of pressure-treated ties for prompt shipment. This service relieves you of storage and inventory control.

You can take advantage of either type of service . . . and your ties will be treated the way you want them treated. Koppers is proud of its reputation for rigid adherence to customers' specifications . . . that reputation is your assurance of satisfaction. Call Koppers for cross ties . . . and a service to fit your needs.

KOPPERS PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC. · Pittsburgh 19, Pa.

NATURALLY
IT'S
Standard



These devices multiply Coupler life and efficiency.

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

310 South Michigan Ave., Chicago 4 • 247 Park Ave., New York 17

HOBART BUILDING, SAN FRANCISCO • FIRST NATIONAL BANK BUILDING, ST. PAUL

(Continued from page 241)
has been named secretary and assistant treasurer, succeeding Mr. Humphreys.

Mr. Humphreys, a veteran of 45 years service with the Frisco, started as an office boy in the president's office in 1906. Two years later he was a clerk in the treasurer's office, and became chief clerk in 1918. In 1924

L. O. Humphreys

he was named assistant secretary, a position he held until 1942, when he became secretary and assistant treasurer.

Mr. Culp began his career with the Frisco in 1901 as a clerk in the treasury department after four years service with the Cotton Belt as an office boy. In 1906 he was named cashier of the Frisco, which position he held until 1931, when he became assistant secretary and assistant treasurer. He was named treasurer in 1942.

C. C. Kratky

Mr. Kratky is a veteran of 37 years service with the Frisco, having started as a clerk in the law department, and advanced through the ranks to become secretary to the assistant general manager, secretary to the president, chief clerk in the executive department, assistant to chief operating officer and assistant to vice-president—operations. While the Frisco was in trusteeship, he

NEAR YOU

there's a GRAYBAR man

who can save you time in obtaining railroad lamps and lighting equipment, pole line supplies, communication equipment, electrical repair-shop supplies, ... everything electrical!

At strategic points throughout the nation, many first-quality electrical items are conveniently available via Graybar. In the following list of Graybar warehouse locations, you'll find the name, address, and phone number of a Graybar Representative near you — a specialist who can help you obtain the electrical items you want with minimum delay. He'll gladly answer any questions about technical aspects, deliveries, prices, or Graybar service. *Graybar Electric Company, Inc.... in over 100 principal cities. Executive offices: Graybar Bldg., New York 17, N. Y.*

208-201

ALABAMA
*Birmingham 3 — 1529-31 First Ave., N.
Birmingham 4-1861 • L. A. Womeldorf
Mobile — 73 Lipscomb Street
Mobile 2-3511 • R. L. Wear

ARIZONA
*Phoenix — 434 West Madison Street
Phoenix 3-6131 • E. E. Leavy

ARKANSAS
Little Rock — 417 Byrd St.
Little Rock 5-1246 • J. C. English

CALIFORNIA
Fresno 2 — 101 Van Ness Ave.
Fresno 2-4175 • B. R. Cole
Long Beach 13 — 17th St. & Daisy Ave.
Long Beach 70-2911 • C. F. Parks
*Los Angeles 54 — 210 Anderson St.
Angelus 3-7282 • C. V. Kelly
Oakland 7 — 1911 Union Street
Glencourt 1-5451 • M. L. Wilkins
*Sacramento 1 — 1900 14th Street
Gilbert 2-8976 • A. R. Fryklund
*San Diego 1 — 720 State Street
Franklin 1361 • R. T. Redfield
*San Francisco 1 — 1750 Alameda St.
Market 1-5131 • O. W. Balser

COLORADO
*Denver 4 — 104 Wazee Market
Tabor 7116 • H. E. Woodring

CONNECTICUT
West Hartford 6 — 453 New Park Ave.
Hartford 33-2631 • D. E. Sullivan
*New Haven 7 — 25 Union Street
New Haven 8-4163 • P. F. Lee
E. F. Berger

DELAWARE
Wilmington 3 — 1005-1007 W. Fourth St.
Wilmington 4-6245 • L. E. McIntyre

DISTRICT OF COLUMBIA
*Washington 2 — 60 Florida Ave., N.E.
Adams 4800 • A. C. Eastburn

FLORIDA
*Jacksonville 1 — 12th & Main Sts.
Jacksonville 6-7611 • W. C. Winfree
Miami 30 — 835 Northwest First Ave.
Miami 9-1614 • J. E. Powell
Orlando — 533-35 W. Central Ave.
Orlando 6133 • H. E. Smitter
St. Petersburg 3 — 1900 First Ave., South
7-4161-2 • R. L. Munro
Tampa 1 — 416 Ellamae Street
Tampa 2-7791 • R. S. Robinson

GEORGIA
*Atlanta 1 — 333 North Ave., N.W.
Cypress 1751 • W. A. Northington
G. Sweeney
*Savannah 1 — 2601 Whitaker St.
Savannah 2-1121 • W. B. Owens

IDAHO
Boise — 14th & Idaho Sts.
Boise 6315 • L. Maynard Smith

ILLINOIS
Chicago 7 — 850 W. Jackson Blvd.
Canal 6-4100 • E. J. O'Donnell
F. D. Wilson
Peoria 2 — 704 South Adams St.
Peoria 4-8211 • W. W. Smilde

INDIANA
Evansville 14 —1709-1713 E. Columbia St.
Evansville 6-1357 • N. S. Muse
Hammond— 5830 Calumet Ave.
Sheffield 5830 • J. J. Lieske, Jr.
*Indianapolis 2 — 1300 W. 16th St.
Atlantic 2351 • W. O. Pape

IOWA
Davenport — 206-210 East 5th St.
Davenport 3-2769 • E. L. Johnson
Des Moines 9 — 24 Eleventh Street
Des Moines 3-8614 • D. M. Hitchcock

KANSAS
Wichita 1 — 424 No. Rock Island Ave.
Wichita 7-1366 • E. F. Linnerson

KENTUCKY
*Louisville 8 — 624-628 Myrtle St.
Calhoun 5411 • C. H. Brown
*Paducah — 418 Guthrie Building
Paducah 960 • R. A. Newberry

LOUISIANA
Baton Rouge — 2442 Ted Dunham Ave.
Baton Rouge 4-7093 • S. M. Lawrason
*New Orleans 13 — 1116 Magnolia St.
Canal 6263 • L. J. Olivier
Shreveport — 90 Fannin St.
Shreveport 4-6645 • A. W. Wheeler

MAINE
*Portland 3 — Center & Commercial Sts.
Portland 3-1761 • H. J. Scully

MARYLAND
*Baltimore 2 — 100 South Street
Saratoga 5050 • J. D. Rhoads

MASSACHUSETTS
*Boston 16 — 287 Columbus Avenue
Kenmore 6-4567 • G. J. Pink
Springfield 4 — 32 Patton St.
Springfield 7-4373 • H. O. Edoff
Worcester 5 — 108 Grove Street
Worcester 6-4311 • H. G. Rappel

MICHIGAN
*Detroit 1 — 55 West Canfield Ave.
Temple 1-5500 • C. R. Carlson
W. E. Watson
P. L. Gundy
*Flint 6 — 2424 Kansas Ave.
Flint 2-4101 • E. C. Bryden
Grand Rapids 2 — 432 Monroe Ave., N.W.
Glendale 1-2561 • H. G. Cook
*Lansing 2 — 421 E. Elm Street
Lansing 4-5434 • W. T. Bronson

MINNESOTA
*Duluth 2 — 320 West 1st Street
Melrose 6645 • F. A. Sjogren
*Minneapolis 15 — 824 South Fourth St.
Geneva 1621 • E. J. Aubrecht
*St. Paul 1 — 464 Robert St.
Cedar 7491 • L. E. Luckman

MISSISSIPPI
*Jackson — 154 E. Porter St.
Jackson 3-6316 • A. N. Saxon

MISSOURI
*Kansas City 8 — 1644 Baltimore Ave.
Baltimore 1644 • R. B. Uhrig
E. H. Williamson
*St. Louis 3 — 2642 Washington Ave.
Newstead 4700 • J. R. Hayes
R. M. Peck

MONTANA
Butte — 604 E. Aluminum St.
Butte 3234 • E. J. Hoff

NEBRASKA
*Omaha 2 — 1120 Capitol Ave.
Atlantic 5740 • D. L. Harper
L. J. O'Connell

NEW HAMPSHIRE
Manchester — 103 Hampshire Lane
Manchester 4-4341 — P. A. Dorn

NEW JERSEY
Newark 5 — 2 Liberty St.
Market 2-5100 • J. P. McCarthy

NEW YORK
*Albany 4 — 40 Van Woert St.
Albany 5-1564 • F. C. Sweeney
Binghamton — 603 Press Bldg.
Binghamton 2-5926 • M. E. Ransom
Buffalo 4 — 180 Perry St.
Washington 3700 • K. L. Thielscher
*New York City — 21-15 Bridge Plaza North
Long Island City 1
Exeter 2-2000 • W. C. Lieneck
Rochester 4 — 186 North Water St.
Baker 7700 • J. T. Porter
Syracuse 1 — 327 North West Street
Syracuse 2-1281 • W. J. McNulty

NORTH CAROLINA
Asheville — 221 Patton Avenue
Asheville 3-4761 • A. A. Wilson
*Charlotte 1 — 120 W. Morehead St.
Charlotte 6-4886 • H. Corey
Durham — 303 South Duke Street
Durham F-113 • M. C. Shorey
Winston-Salem 1 — 955-59 Brookstown Ave.
Winston-Salem 4-2461 • J. W. Van Dorsten

OHIO
Akron 9 — 185 Carroll St.
Jefferson 4-4143 • N. W. Zilch
*Cincinnati 14 — 115-129 W. McMicken Ave.
Main 0600 • J. V. Neal
Joseph Ellis
*Cleveland 14 — 1010 Rockwell Ave.
Cherry 1-1360 • A. R. Hicks
Columbus 15 — Third & Chestnut Sts.
Fletcher 3811 • C. E. Furber
Dayton 2 — 332-42 West Monument Ave.
Michigan 5665 • A. J. Fischer
Toledo 2 — 1700 Canton Street
Main 9166 • A. W. Hallett
Youngstown 1 — 602 West Raye. Ave.
Youngstown 4-0124 • W. C. Robinson

OKLAHOMA
Oklahoma City 2 — 12 E. California St.
Oklahoma City 3-9351 • W. A. Arthur
Tulsa 4 — 2406 E. 12th St.
Tulsa 6-1151 • F. L. Cummings

OREGON
Eugene — 2180 6th Ave. West
Eugene 4-2224 • H. O. Colburn
*Portland 9 — Park & Flanders Sts.
Broadway 6641 • Marvin Peck

PENNSYLVANIA
Allentown — 1941 Hamilton Street
Allentown 4-9341
Bethlehem 1-0657 • W. L. Hall
Harrisburg — 1039 S. Thirteenth St.
Harrisburg 5-7303 • W. H. Naudascher
Philadelphia 7 — 910 Cherry St.
Walnut 2-5405 • W. W. Frazee, Jr.
D. M. Antrim
Fred Jaeger
*Pittsburgh 12 — 900 Ridge Ave.
Allegheny 1-4100 • J. G. McNeely
R. F. Grossett
Reading — 22 South Third Street
Reading 6-1581 • T. J. Hopkins

RHODE ISLAND
Providence 3 — 194-196 Richmond St.
Dexter 1-8100 • T. A. Purcell

SOUTH CAROLINA
Columbia — 710 Lady St.
Columbia 2-2125 • J. H. Littleton, Jr.

SOUTH DAKOTA
Aberdeen — 224 First Ave. S.E.
Aberdeen 2974 • D. G. Hubbard

TENNESSEE
Bristol — 29 Fifth Street
South 4415 • R. L. Coward
Chattanooga 1 — 1222 Carter Street
Chattanooga 6-5624 • J. R. Feeney
Knoxville 30 — Henley St. & Union Ave.
Knoxville 3-6171 • C. C. McGraw
*Memphis 3 — 484 South Front Street
Memphis 37-3421 • J. W. Horne
*Nashville 2 — 313-315 8th Ave. So.
Nashville 6-7161 • Herschel Hall

TEXAS
*Amarillo — 601 E. 2nd Avenue
Amarillo 2-6778 • L. P. Bell
Austin — 214 E. 3rd St.
Austin 8-5674 • George W. Cox
Beaumont — 1070 Fannin St.
Beaumont 2-8484 • L. A. Haley
Corpus Christi — 1311 Agnes St.
Corpus Christi 4-6374 • R. E. Broyles
*Dallas 1 — 717 Latimer St.
Randolph 6454 • A. Frank Hamm
El Paso — 427 West San Antonio St.
El Paso 3-7561 • C. A. Steinmann
*Fort Worth 7 — 1107 Foch St.
Edison 4523 • Vernon Young
*Houston 3 — 1702 Cullen Blvd.
Atwood 8-4571 • W. P. Worley, Jr.
San Antonio 8 — 1401 N. Hackberry St.
Fannin 6274 • J. Emmett House

UTAH
*Salt Lake City 13 — 336 N. 3rd West St.
Salt Lake City 9-8771 • R. H. Lee

VIRGINIA
*Norfolk 1 — 333 West 21st St.
Norfolk 2-2727 • L. E. Burford
W. R. Nottingham
*Richmond 19 — 10 S. 6th St.
Richmond 7-3491 • E. C. Toms
*Roanoke 5 — 601 Salem Ave.
Roanoke 3-3615 • W. E. James

WASHINGTON
*Seattle 4 — King & Occidental Sts.
Mutual 0123 • E. C. McEachron
*Spokane 8 — 152 South Post St.
Riverside 3151 • W. A. Sparks
*Tacoma 1 — 2112 "A" Street
Main 0166 • R. J. Franzen

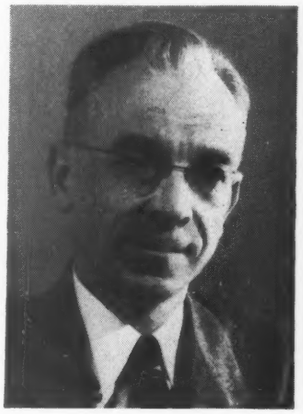
WEST VIRGINIA
Charleston — 600 Chamber of Commerce Building
Charleston 6-0411 • John T. Young

WISCONSIN
Milwaukee 2 — 180 No. Jefferson St.
Marquette 8-1946 • R. J. Harkins

*At these warehouses, there are Graybar Representatives who have special experience in handling railroad electrical requirements.

was assistant to the trustee, and upon the company's reorganization in 1947 he was named assistant to the president.

E. Ellsworth Pancost, an assistant treasurer of the NEW YORK CENTRAL, has been appointed treasurer, with headquarters as before at New York, succeeding **Gustave H. Howe,** who retired on December 31, 1951, after more than a half century with the road. **Ernest G. Jerome,** assistant to treasurer, becomes an assistant treasurer. Mr. Pancost was born at Elkhart, Ind., in 1895 and joined the Central there in 1911 in the transportation department. In 1917 he became supervising agent at Cleveland, transferring to Andover, Ohio, in 1920. Mr. Pancost became head clerk in the treasury department in 1929 and in 1932 was appointed assistant credit officer at New York. He became credit officer in 1937, assistant to treasurer in 1943 and an assistant treasurer in 1949.



E. Ellsworth Pancost

Mr. Howe was born at New York on June 8, 1884, and joined the Central on April 23, 1901, as a clerk in the accounting department. In 1907 he transferred to the treasurer's office, serving successively as clerk, assistant cashier, chief clerk and as an assistant treasurer, holding the latter position from 1929 until his appointment as treasurer in 1943.

Edward L. Moorhouse, assistant local treasurer of the PITTSBURGH & LAKE ERIE, an affiliate of the NEW YORK CENTRAL SYSTEM, has been appointed local treasurer, with headquarters as before at Pittsburgh, succeeding **Earl E. Barton,** who retired on December 31, after 48 years of service. **Tom B. Clarke,** cashier, has been appointed assistant local treasurer. Mr. Moorhouse was born at Ingram, Pa., and joined the P.&L.E. in 1924 as a member of the purchasing department He transferred to the treasury department in 1927 and was appointed paymaster on April 1, 1946, and assistant local treasurer on May 16, 1947.

Mr. Barton was born at Bradford, Pa., on June 28, 1884, and joined the

Handle your LCL Freight with
JERVIS B. WEBB COMPANY
TOWVEYOR SYSTEMS

Illustrated is a Truck Freight System readily adaptable to LCL Freight Handling. Note the small trailers with **ONE** shipment each.

Webb TOWVEYORS Act As Mediums For:

SORTING: Shipments are sorted while being loaded through placing them on individual trailers—eliminating stacking and re-sorting.

CONVEYING: Loads are handled for long distances without any operator being required to go with them.

PACING: With its smooth continuous flow of shipments to every station, the "pacing" feature of the Webb TOWVEYOR overcomes the weak link in the "human chain." Trailers are designated clearly so that their removal from the "line" is always obvious.

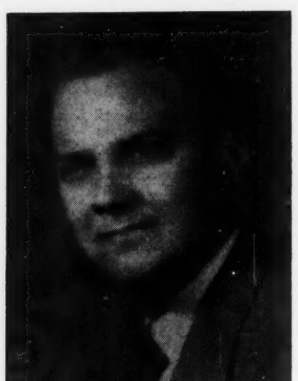
CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
8945 ALPINE AVE.
DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

P.&L.E. on June 15, 1903, as a stenographer in the accounting department, transferring a year later to the treasury department. He became assistant local treasurer on January 1, 1936, and local treasurer on July 1, 1940.

A. J. Winder, assistant general solicitor of the NORFOLK SOUTHERN, has been appointed general solicitor, with headquarters as before at Norfolk, Va., succeeding **S. Burnell Bragg,** retired. **A. S. Holtz** has been appointed assistant general solicitor, succeeding Mr. Winder. Mr. Bragg was born in Lunenburg county, Va., on February 23, 1879. He studied electrical engineering at Virginia Polytechnic Institute and law at Richmond College (now University of Richmond). Mr. Bragg began his career in 1906 with the law firm of Jeffries, Wolcott & Wolcott, at Norfolk. He was appointed assistant counsel for the receiver of the N.S. in September 1937 and became general solicitor in January 1942.

W. W. Perkins has been appointed claim agent of the SOUTHERN at Cincinnati, succeeding **Paul Mullen,** who has been assigned to special duties in the claim department at Cincinnati.

Prime F. Osborn has been appointed general solicitor of the LOUISVILLE & NASHVILLE at Louisville, Ky., succeeding the late **W. A. Northcutt. Joseph L. Lenihan,** an attorney in the law department at Louisville, succeeds Mr. Osborn as assistant general



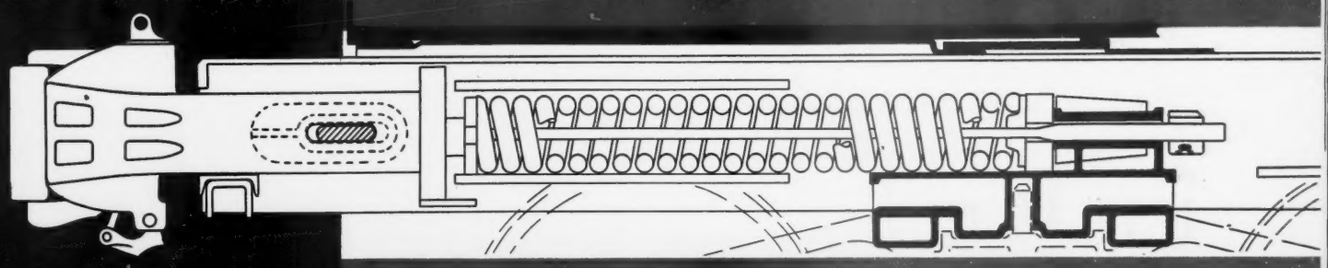
Prime F. Osborn

attorney. A native of Alabama, Mr. Osborn is a graduate of the University of Alabama, and has been an attorney for the railroad in Mobile, Ala. Prior to that, he was assistant attorney general of Alabama. He was a lieutenant colonel of artillery during World War II.

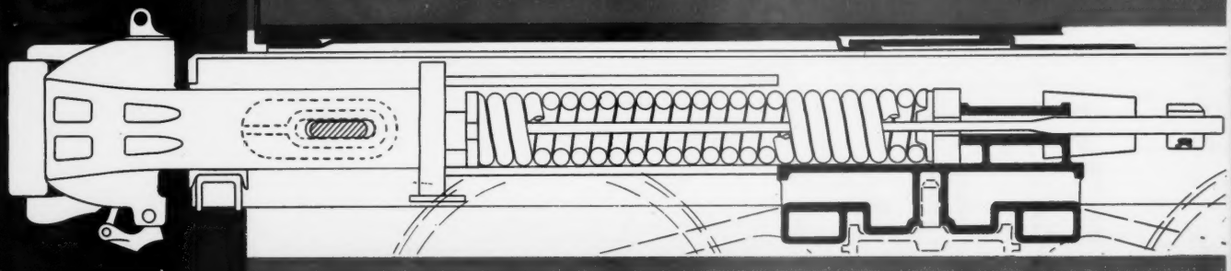
W. R. Bixler, assistant treasurer of the BALTIMORE & OHIO at New York, has been appointed treasurer at Baltimore, succeeding **John J. Jenkins,** who will retire on January 15. **Edward P. Snyder,** assistant to vice-president

(Continued on page 250)

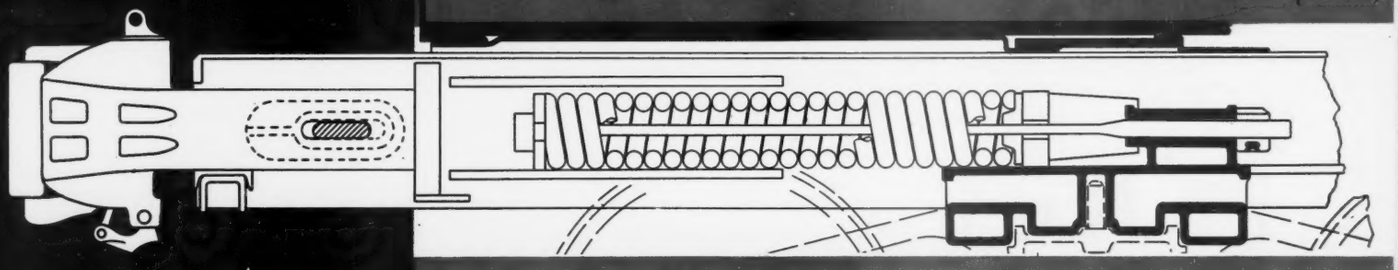
THE CUSHIONING EQUIPMENT THAT PROVIDES LADING PROTECTION



(A) Duryea floating center sill in neutral position.



(B) Under compression, coupler moves ¾ inch in relation to sill and sill moves 7 inches against resistance of coil springs at either end of sill and friction of car floor.



(C) Under pull or impact from opposite end sill moves 7 inches as shown. Total movement—14 inches plus coupler movement.

DOUBLE ACTION! Double Capacity! 40% extra lading protection! That's what you get when freight cars are safeguarded with Duryea Cushion Underframes.

How? Why? The Duryea Cushion Underframe is unique. A floating center sill, it moves under impact while the car stands still. Subjected to the thrust of a moving car, the sill starts to move but movement is immediately resisted by coil springs within the sill at either end and also by the frictional resistance of the sill against the deflection of the loaded car. There is a maximum sill travel of seven inches in either direction.

In consequence of this unique Duryea design, shock transference to car structure is extremely low . . . for a loaded car coupled at 5 miles per hour, only 16% of the transference resulting when cars are equipped with conventional draft rigging.

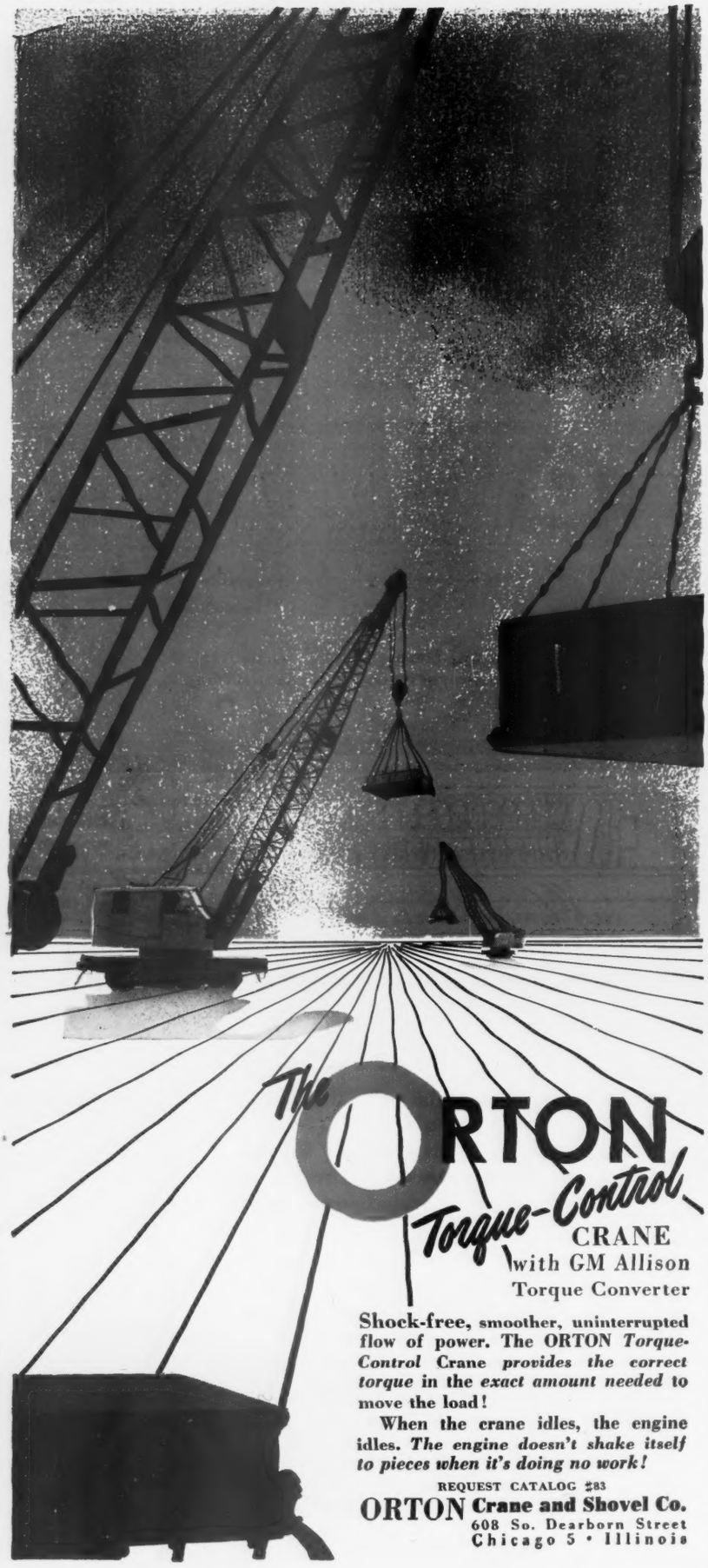
For less lading damage, longer car life, more in-service time and consequent greater car revenue, specify Duryea Cushion Underframes on all new cars.

HULSON CO. 332 SOUTH MICHIGAN AVENUE CHICAGO 4, ILLINOIS

THAT **40%** EXTRA LADING PROTECTION

duryea
cushion underframe

THE SILL MOVES WHILE THE CAR STANDS STILL


The ORTON
Torque-Control
CRANE
with GM Allison
Torque Converter
Shock-free, smoother, uninterrupted flow of power. The ORTON Torque-Control Crane provides the correct torque in the exact amount needed to move the load!
When the crane idles, the engine idles. The engine doesn't shake itself to pieces when it's doing no work!
REQUEST CATALOG #83
ORTON Crane and Shovel Co.
608 So. Dearborn Street
Chicago 5 • Illinois

(*Continued from page* 246)

—finance at Baltimore, has been appointed assistant treasurer at New York, succeeding Mr. Bixler. Mr. Jenkins was born on November 21, 1881, at La Plata, Md., and joined the B.&O. on December 26, 1899, as an office boy in the freight claim department. He transferred to the treasury department on May 1, 1900, where he held various clerical positions until June 1, 1915, when he was appointed chief clerk to the treasurer. On May 1, 1928, he became assistant to the treasurer and on October 1, 1935, assistant treasurer. Mr. Jenkins was elected treasurer on March 16, 1938.

J. E. Paradis has been appointed assistant manager of the real estate department of the CANADIAN PACIFIC at Montreal. Mr. Paradis joined the C.P. in 1934 as an assistant to the solicitor in the legal department and was promoted to assistant solicitor in that department in March 1939, holding the latter position until his recent appointment.

OPERATING

Edward C. Gegenheimer has been appointed manager of operating practices for the PENNSYLVANIA on the staff of the vice-president—operation, effective January 1. In his new post he will supervise and coordinate issuance of rules, standards, and instructions relating to train and yard engine operations and will also be

Edward C. Gegenheimer

responsible for general regulation of use and development of signals and communications, working jointly with the chief engineer in this latter field. In his new work Mr. Gegenheimer will assume a number of the duties of **William R. Triem,** general superintendent of telegraph, who is approaching retirement. A native of Chicago and graduate of the Armour and Lewis Institutes there, Mr. Gegenheimer entered railroad service on November 13, 1911, as an assistant on an engineer corps. Subsequently he became assistant engineer at Chicago, where he was associated with the

"Tailor-made" for Railroad Diesels

Esso Diesel Lubricating Oil

A HIGH-QUALITY LUBE FOR REAL PROTECTION — Esso offers "tailor-made" diesel locomotive lubricating oil, Diol RD. Developed through years of field testing and research by engine designers and Esso scientists to meet all needs of railroad diesels!

BACKED BY CONSTANT RESEARCH — continuing tests in the lab and on the road make sure that Esso Diol RD keeps pace with progress!

9 FREE LUBRICATION BOOKLETS — expert, readable, color pictures. On diesel; electric; steam; and industrial locomotives; cars; engineering and maintenance; shops and power plants; floating equipment; Esso products. Specify those you want. Write today: Esso Standard Oil Company, 15 W. 51st St., N. Y. 17, N. Y.

The Sign of QUALITY — ESSO — *The Symbol of* SERVICE

RAILROAD PRODUCTS

SOLD IN: Maine, N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Penna., Del., Md., D. C., Va., W. Va., N. C., S. C., Tenn., Ark., La.

ESSO STANDARD OIL COMPANY — Boston, Mass. — New York, N. Y. — Elizabeth, N. J. — Philadelphia, Pa. — Baltimore, Md. — Richmond, Va. — Charleston, W. Va. — Charlotte, N. C. — Columbia, S. C. Memphis, Tenn. — New Orleans, La.

THERE IS AN EASY WAY TO CONTROL VIBRATION

The easiest way to solve your vibration problem is to put it up to your nearest Lord Field Engineer. He will analyze it and recommend the specific type of Lord Mounting necessary. By drawing upon complete data files of more than 27,000 Lord Mountings and their variations, it is probable that he can solve your problem from this reservoir of available Lord Mountings.

If your vibration trouble involves circumstances which have not been encountered before, your Lord Field Engineer will work closely with you and with engineers at the Lord Factory to design the type of specific Lord Mounting most profitable to you.

For immediate attention to your problem call or write to

BURBANK, CALIFORNIA
Joe B. Hartley
George E. Behlmer
233 South Third Street
ROckwell 9-2151
CHarleston 6-7481

CHICAGO 11, ILLINOIS
Robert T. Daily
Kenneth L. Hanson
Perry C. Goodspeed, Jr.
520 N. Michigan Ave.
MIchigan 2-6010

DALLAS, TEXAS
Bruce O. Todd
1613 Tower Petroleum Building
PRospect 7996

DAYTON 2, OHIO
W. Webster Dalton
238 Lafayette Street
MIchigan 8871

DETROIT 2, MICHIGAN
Everett C. Vallin
7310 Woodward Ave.
TRinity 5-8239

NEW YORK 16, NEW YORK
Vincent Ellis
Jack M. Weaver
280 Madison Avenue
MUrray Hill 5-4477

PHILADELPHIA 7, PENNSYLVANIA
George P. Harrington
725 Widener Building
LOcust 4-0147

ERIE, PENNSYLVANIA
Paul E. Dailey
Harry C. Sapper
1635 West 12th Street
2-2296

LORD MANUFACTURING COMPANY • ERIE, PA.

LORD BONDED RUBBER

HEADQUARTERS FOR
VIBRATION CONTROL MOUNTINGS
. . . BONDED RUBBER PARTS

planning, development and construction of the Chicago Union Station and the trackage which serves it. He was similarly connected with the planning and construction of the Pennsylvania's 30th street and Broad street suburban stations in Philadelphia, and in many other engineering projects on the railroad. He has had experience in every phase of railroad operations, having been trainmaster on several divisions, superintendent of the Sunbury, Toledo, Williamsport, Middle and Philadelphia Terminal divisions, general superintendent at Williamsport, assistant to general manager at Philadelphia, and assistant chief of personnel.

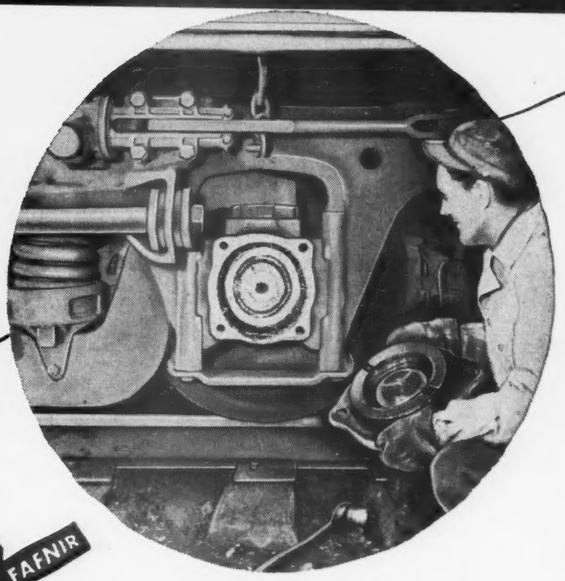
C. N. Mays, assistant regional accountant of the BALTIMORE & OHIO at Baltimore, has been appointed assistant to general manager at Pittsburgh, succeeding **Edwin S. Rupp,** who has been appointed assistant to vice-president, operation and maintenance, at Baltimore.

John Burch, superintendent of terminals of the ST. LOUIS-SAN FRANCISCO at Kansas City, Mo., has retired, and is succeeded by **D. B. Cronin,** superintendent of terminals at Birmingham, Ala. **A. M. Ball,** assistant general superintendent transportation at Springfield, Mo., has been appointed acting superintendent, River division, at Chaffee, Mo. Mr. Ball is succeeded by **H. E. Rook,** superintendent of

H. E. Rook

terminals at Tulsa, Okla., while **E. M. Gray** succeeds Mr. Rook. **W. C. Salsman** has been appointed terminal trainmaster at Kansas City, succeeding Mr. Gray. **W. F. Billings** has been appointed terminal trainmaster at St. Louis, succeeding **W. F. Mitchell,** who has been appointed acting superintendent terminals at St. Louis. **J. K. Beshears,** assistant superintendent at Amory, Miss., has been appointed superintendent terminals at Birmingham. He is succeeded by **H. J. Lovelady,** chief dispatcher at Amory.

Mr. Burch began his railroad career in 1903 in Henderson, Ky.; entered service with the Frisco as brakeman



TIMKEN FAFNIR S.K.F. HYATT

LUBRIKO GREASE

M-1 SPECIAL
FOR ROLLER BEARING CAR JOURNALS

YOUR Roller Bearing Car Journals Should Be GREASE LUBRICATED

...here's ALL FOUR famous makes of bearings—LUBRIKO LUBRICATED!

This group of pictures marks a milestone in progress. All four famous makes of bearings are shown with Lubriko Grease lubrication. The pictures were made from trains in actual daily use...not on tests. LUBRIKO M-1 SPECIAL GREASE FOR RAILROADS is past the test stage for car journals—it is now proved and approved for grease lubricated roller bearing car journals of all makes.

The change over from oil to grease can, in most instances, be made without mechanical changes in equipment. The change in terms of dollars saved and efficiency gained means many thousands of dollars to the well-known railroads who are now taking this step.*

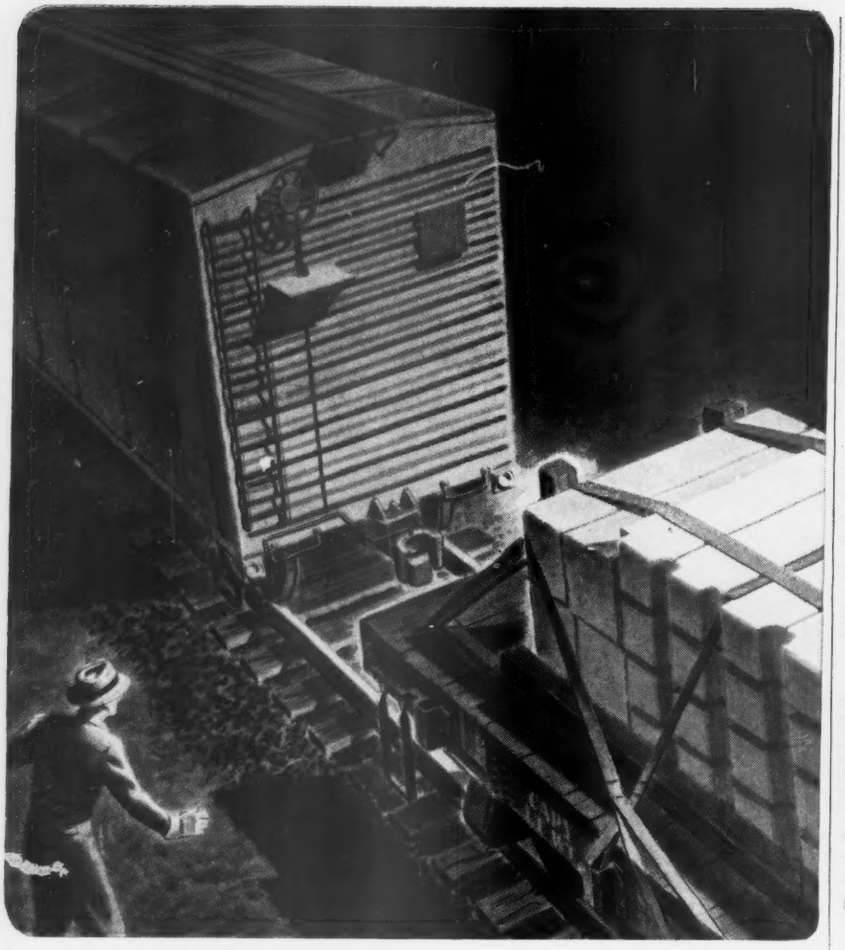
THE TEST TELLS

A. A. R.
APPROVED FOR INTERCHANGE

*ENGINEERING DATA UPON REQUEST

You are SAFE with LUBRIKO
THE MASTER LUBRICANT

MASTER LUBRICANTS COMPANY PHILADELPHIA, PA.
MANUFACTURERS OF HIGH-GRADE INDUSTRIAL LUBRICANTS FOR OVER 30 YEARS
LOS ANGELES • BOSTON • SAN FRANCISCO
Incorporated 1908 Established 1891



CRASH AHEAD! . . .

ON AMERICA'S SHORTEST RAILROAD

Imagine a railroad crew that purposely sets up a crash between two loaded freight cars! That's what's happening in the scene above, and it goes on all the time—for this is Signode's famed outdoor test track.

The big idea behind this activity is to find out . . . under operating conditions . . . exactly what happens to your shipments in transit; what causes product damage; and what to do about it.

Research is the heart of Signode

as evidenced by this type of full-scale laboratory equipment. To more than 30,000 shippers, Signode's leadership in the development of better ways to make steel strapping . . . and to use it . . . has meant millions of dollars saved.

If you are engaged in defense or essential civilian production, it will be to your advantage to get the whole story. For now, if ever, the best use of men and materials, the quickest, surest way of distributing goods, is the first order of the day.

SIGNODE STEEL STRAPPING COMPANY

2637 N. WESTERN AVENUE CHICAGO 47, ILLINOIS

this seal SIGNODE *means security in shipping*

Offices coast to coast;
In Canada: Canadian Steel Strapping Co., Ltd.,
Foreign subsidiaries and distributors world wide

in 1908, and after working with other railroads returned to the Frisco in 1923 as a switchman. In 1924 he was promoted to night general yardmaster at Kansas City and in 1926 became general yardmaster. He was appointed superintendent of terminals in 1932 at Memphis, and in 1934 returned to Kansas City as superintendent of terminals.

Mr. Rook joined the Frisco in 1919 as a bill clerk and in 1922 became switchman. In 1924 he became yardmaster and in 1942 assistant division superintendent. He was named superintendent of terminals at Tulsa in 1948.

Harold H. Vaughn, trainmaster on the Columbus division of the PENNSYLVANIA, has been appointed assistant superintendent of the Southwestern division at Indianapolis, succeeding **George C. Vaughn,** whose promotion to superintendent of the Panhandle division at Pittsburgh was reported in *Railway Age* December 31.

Donald M. Kerr, who has been acting general manager of the CENTRAL VERMONT for the past five months, has been appointed general manager at St. Albans, Vt. Mr. Kerr was born at Martinez, Cal., on February 16, 1897, and entered railroad service in 1913 as clerk and agent with the Nevada, California & Oregon (now Southern Pacific). He later served as superintendent of accounts

Donald M. Kerr

for the Minneapolis, St. Paul & Sault Ste. Marie and as traveling auditor of the Duluth, Winnipeg & Pacific (part of the Canadian National). In November 1944 Mr. Kerr was appointed auditor of the C.V. at St. Albans and in December 1948 he became auditor of the Grand Trunk Western at Detroit. Five months ago he was appointed acting general manager of the C.V.

T. J. Hale, assistant superintendent of the NASHVILLE, CHATTANOOGA & ST. LOUIS, has been appointed superintendent of the Chattanooga and Huntsville divisions, with headquar-

Lifts Ties like Matches

UP THEY COME—Railway ties salvaged from an abandoned second main line, scooped up from the slag ballast, gathered together in bundles by the remarkable one-man unit.

International crawler with new skid loader scoops up ties from 60 miles of Southern track

When the Southern Railway installed centralized traffic control on one division recently, it became possible to remove 60 miles of rails from second main-line track. Then the Southern wondered how to recover 180,000 ties from the same section.

They found that when it comes to salvaging ties, there's nothing made to match the new skid loader mounted on a rugged International crawler.

A TD-14A crawler with skid loader was put to work, scooping up the ties with reinforced skids, and holding them secure with the machine's claw-like top grab arm. The bundles of from 20 to 25 ties were banded with steel tape from special tape reels mounted on the skid loader frame.

Result: 2,900 ties dug up and tied in bundles each 8-hour day.

The tractor skid loader outfit is a natural for materials handling. See your International Industrial Distributor, and put International *"Power that Pays"* to work for you!

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILLINOIS

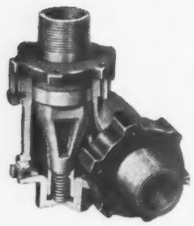
INTERNATIONAL

INTERNATIONAL HARVESTER

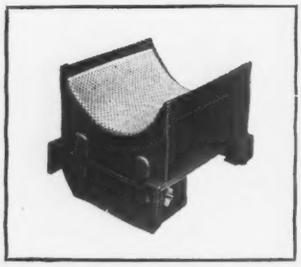
POWER THAT PAYS

use Franklin parts on Franklin devices

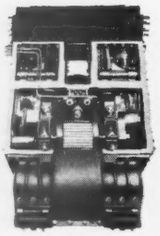
In order to obtain full efficiency from your Franklin devices, specify genuine Franklin parts in replacement. Franklin devices will always perform best when equipped with genuine Franklin parts made to interchangeable tolerances and of the correct materials.



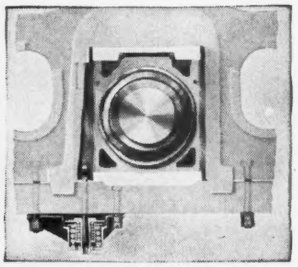
Sleeve Joints



Driving Box Lubricators

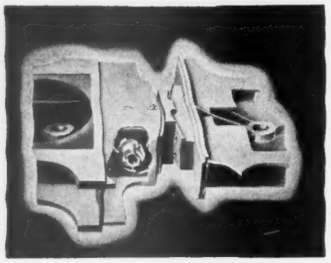


The Locomotive Booster

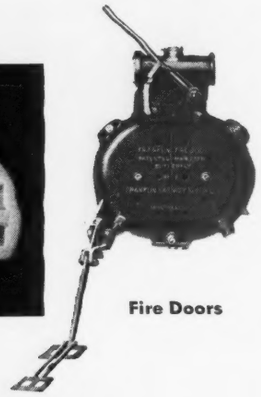


Automatic Compensators & Snubbers

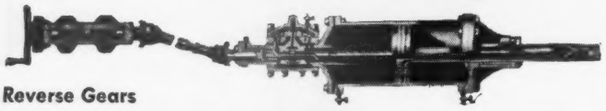
Franklin System of Steam Distribution



Radial Buffers



Fire Doors



Power Reverse Gears

FRANKLIN RAILWAY SUPPLY COMPANY

A CORPORATION

NEW YORK • CHICAGO • TULSA • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER
POWER REVERSE GEARS • FIRE DOORS • DRIVING BOX LUBRICATORS
JOURNAL BOXES • FLEXIBLE JOINTS

EXCLUSIVE RAILWAY DISTRIBUTORS FOR: N.A. STRAND FLEXIBLE SHAFT EQUIPMENT
IRVINGTON ELECTRICAL INSULATION AND VARNISH

ters as before at Chattanooga, Tenn., succeeding **John W. Tucker,** who retired on January 1, after 55 years of service. Mr. Tucker was born at Decherd, Tenn., on January 20, 1876, and entered railroad service on November 5, 1896, as freight brakeman with the N.C.&St.L. He later served successively as baggagemaster, express messenger, conductor, trainmaster and assistant division superintendent. Mr. Tucker was appointed division superintendent at Chattanooga in May 1941.

E. Macon Tolleson, superintendent of the Charlotte division of the SOUTHERN SYSTEM at Greenville, S. C., has been appointed general superin-

E. Macon Tolleson

tendent transportation at Charlotte, N. C., succeeding **T. C. Blackwell,** who will retire on January 1 after 52 years of service. **Henry R. Moore,** trainmaster at Greensboro, N. C., has been appointed superintendent of the

Henry R. Moore

Charleston division at Charleston, S. C., succeeding **Louis E. King,** who succeeds Mr. Tolleson as superintendent of the Charlotte division.

Mr. Blackwell was born at Georgetown, Ky., on January 8, 1882, and attended Georgetown College. He entered railroad service in 1900 as tele-

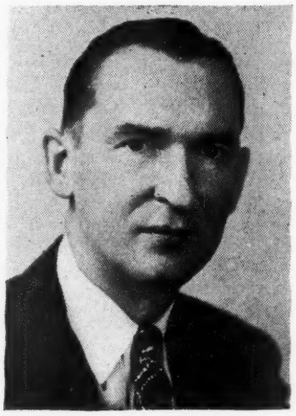
(*Continued on page* 259)

(*Continued from page* 256)
graph operator and agent with the Cincinnati, New Orleans & Texas Pacific (now Southern) and later served successively as car distributor, chief clerk to superintendent, train dispatcher, chief dispatcher and trainmaster. In 1927 Mr. Blackwell was appointed superintendent of the Memphis division of the Southern, transferring to the Atlanta division in 1934. He became general superintendent transportation at Charlotte in 1938.

Mr. Tolleson was born on October 13, 1904, at Montgomery, Ala., and entered the service of the Southern at Chattanooga in September 1919 as a messenger. Six months later he became a file clerk and stenographer in the office of the assistant general passenger agent, subsequently serving as secretary to the general superintendent at Chattanooga, secretary to the general manager at Cincinnati, assistant trainmaster at Somerset, Ky., terminal trainmaster at Cincinnati, and trainmaster at Oakdale, Tenn., and Birmingham, Ala. In February 1941 Mr. Tolleson was promoted to superintendent at Selma, Ala., later transferring to Hattiesburg, Miss.; Somerset, and Greenville, S. C.

Mr. Moore was born at Chatham, Va., on January 15, 1916, and attended Virginia Polytechnic Institute. He entered the service of the Southern in June 1939 and became a student apprentice in August 1940. He later served as assistant track supervisor and track supervisor at Camden, S. C., and Charleston. In March 1946 Mr. Moore was promoted to trainmaster at Columbia, S. C., and subsequently transferred to Alexandria, Va., Greenville, S. C., and Greensboro, N. C.

William G. Dorsey, superintendent of transportation of the DELAWARE, LACKAWANNA & WESTERN at New York, has been promoted to superintendent of the Scranton division at Scranton, Pa., succeeding **J. S. Kapenos,** appointed trainmaster at Port Morris, N. J. **James F. Scanlon,** assistant to vice-president at New York, has been appointed assistant superintendent at Scranton. **H. J. Paletz,** terminal trainmaster at Hoboken, has been appointed trainmaster at Buffalo, succeeding **Robert W. Jones,** who has been promoted to superintendent of transportation. **I. H. Harris,** trainmaster at Port Morris, has been transferred to Hoboken, to succeed **R. A. Carrol,** who has been appointed terminal trainmaster at Hoboken.



William G. Dorsey

Mr. Dorsey was born at Buffalo, N. Y., on April 15, 1902, and entered railroad service in 1917 as yard clerk with the Erie at Buffalo. He served in various capacities on the Erie until 1939, when he joined the Association of American Railroads as car service agent at Pittsburgh. In 1940 Mr. Dorsey was appointed special assistant to chairman of the Car Service division, A.A.R. at Washington, D. C. He joined the Lackawanna in 1942 as transportation assistant, becoming trainmaster later that year, and was appointed superintendent of transportation at New York in 1945.

V. E. Peterson has been appointed assistant general manager—personnel, Lines West, NEW YORK CENTRAL, at Cleveland. **L. M. Riley,** assistant superintendent at Charleston, W. Va., has been appointed assistant superintendent of the Western division, Lines

Many Railroads today specify MULE-HIDE *Town & Country* roofs

—because it's the only shingle with ALL these weatherproof features:

3⅞" WEATHER EXPOSURE
TRIPLE THICKNESS
4¼" HEADLAP
290 LB. WEIGHT
4-UNIT DESIGN
SECURITY NAILING
PLUS—

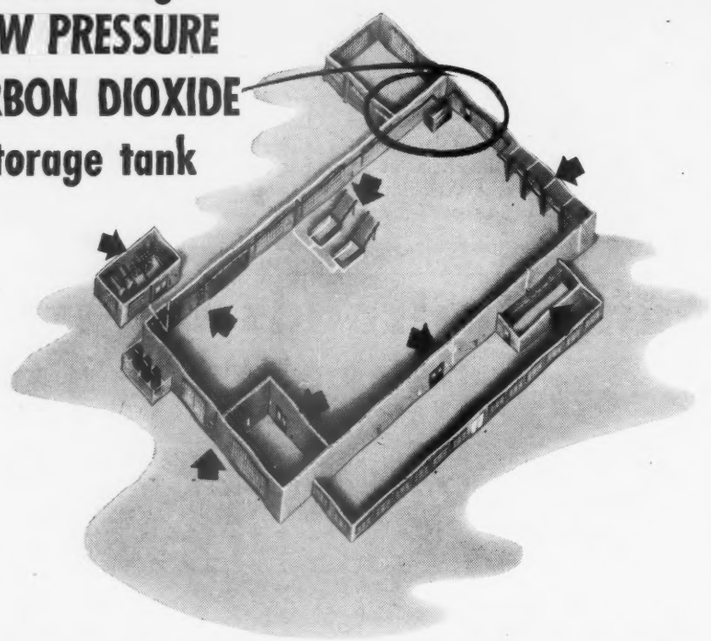
11 beautiful colors!

COR-DU-ROY ribs & grooves that *SLOW DOWN ROOF WEAR!*

Write—For samples and full specifications
THE LEHON COMPANY — Chicago 9

Plant-Wide Fire Protection

from a single LOW PRESSURE CARBON DIOXIDE storage tank



Now, your larger size fire hazards can be protected more efficiently at less cost, thanks to C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems. Simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area . . . to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

Flexibility is the keynote of these new type C-O-TWO Fire Extinguishing Systems . . . the low pressure carbon dioxide storage tanks range in capacities from one to fifty tons . . . discharge facilities can either be manual mechanical, manual electric, automatic mechanical, automatic electric or a combination of these . . . especially installed to fit your particular needs. Future plant expansion is easily and economically provided for by initially installing an oversized low pressure carbon dioxide storage tank and adding the supplementary discharge facilities at a later date.

C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing Systems are built with the same superior design and high quality workmanship that have characterized C-O-TWO High Pressure Carbon Dioxide Type Fire Extinguishing Systems for many years. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

So, with current expensive delayed replacements, why not let an expert C-O-TWO Fire Protection Engineer help you now in planning fully approved fire protection facilities for your various properties. Complete free information and descriptive literature is yours for the asking. Get the facts today!

C-O-TWO

C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

West, and of the West division, Michigan Central district, at Chicago. **W. G. Chase,** assistant superintendent at Chicago, has been transferred to the Toledo division at Toledo. **C. L. Stalder,** trainmaster, has been appointed assistant superintendent of the Ohio Central division, with headquarters as before at Charleston. **W. H. Hinderer,** assistant trainmaster at Jackson, Mich., has been appointed trainmaster, West division, at Niles, Mich. **A. L. Johnson,** assistant trainmaster at Niles, has been appointed trainmaster of the Ohio Central division at Charleston.

Clifford F. Grimes, division superintendent of the NEW YORK CENTRAL at Syracuse, N. Y., has been appointed general manager there, succeeding **Augustus Hart,** who has been appointed assistant vice-president, operations and maintenance, at New York. **G. Frank Jessup,** assistant superintendent at Erie, Pa., has been appointed superintendent at Syracuse and will be succeeded by **C. D. Buford,** assistant superintendent of freight transportation at Indianapolis. **Douglass Campbell,** assistant to the assistant general manager at Indianapolis, succeeds Mr. Buford, and **Frank K. Mitchell, Jr.,** trainmaster at Albany, N. Y., replaces Mr. Campbell. Mr. Grimes was born at Thurston, N. Y., 51 years ago and joined the N.Y.C. as a signal operator at Syracuse in 1917. After a series of promotions he became trainmaster at Albany in 1941 and six years later was promoted to assistant to assistant general manager at Syracuse. In 1948 he became assistant superintendent at Albany and in 1950 was promoted to superintendent at Syracuse.

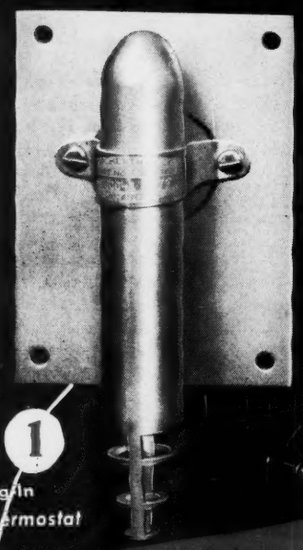
Clifford F. Grimes

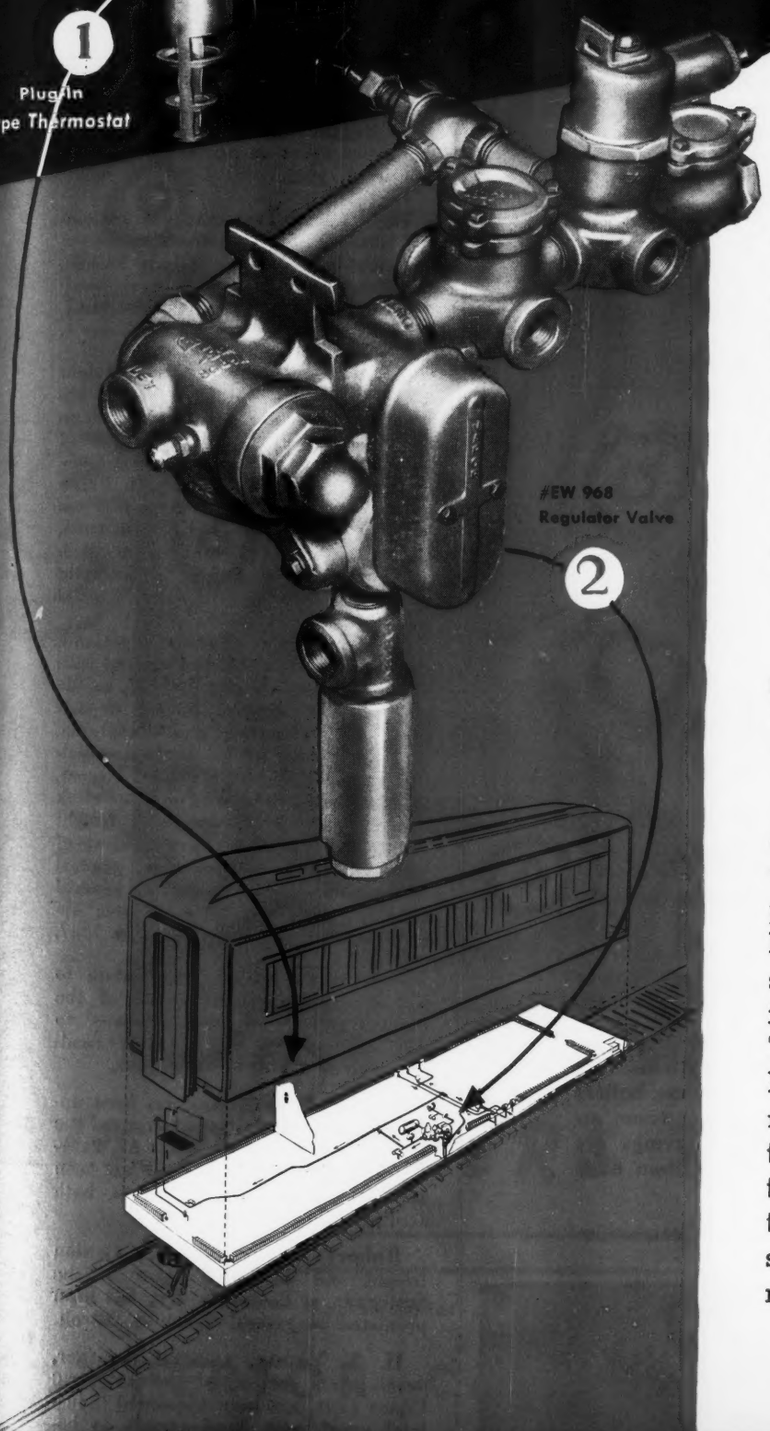
Alvin H. Lewis, trainmaster of the NEW YORK & LONG BRANCH and the Southern division of the CENTRAL OF NEW JERSEY at Long Branch, N. J., has been appointed passenger trainmaster of the Central division of the C.N.J. at Jersey City, N. J., succeeding **George A. Herman,** who has retired after nearly 42 years of service. **Alex E. Bjorkner,** assistant passenger

with only 2 simple parts

VAPOR'S Unizone SYSTEM

insures utmost passenger comfort!





In the most luxurious streamliner coaches or any open body cars. The full advantages of the Unizone system can be obtained at a cost low enough to insure its application to all new and remodeled cars including suburban coaches.

The COMPLETE Unizone SYSTEM

consists of one plug-in type thermorelay which provides luxury thermostatic temperature control inside the car, plus one EW 968 Regulator which maintains a constant "Safe Controlled" supply of steam for floor and overhead heating system. This same simple regulator also provides low pressure steam to supply hot water needs. When inspection is necessary it takes only minutes to remove and replace the plug-in type thermostat and to remove the four unions from this simplest of piping systems to inspect or replace the single new EW 968 Regulator.

VAPOR HEATING CORPORATION—80 East Jackson Boulevard, Chicago 4, Illinois

New York • St. Paul • Denver • St. Louis • Portland • Washington • Philadelphia • San Francisco • Jacksonville • Richmond • Houston • Montreal • Los Angeles

trainmaster at Jersey City, succeeds Mr. Lewis at Long Branch.

TRAFFIC

Robert M. Barnett, assistant general freight agent of the SEABOARD AIR LINE at Charleston, S. C., has been appointed assistant freight traffic manager at Savannah, Ga., suceeding the late **W. P. Hickey,** whose death was reported in *Railway Age* December 10. **W. M. Curley,** perishable diversion agent at Savannah, has been promoted to assistant general freight agent at Charleston. **J. P. Roberts,** district freight agent at Orlando, Fla., succeeds Mr. Curley at Savannah. Mr. Barnett was born at Oxford, Md., and joined the Seaboard in 1919 as an office boy at New York. He subsequently served as clerk at New York, secretary at Norfolk, city freight agent and commercial agent at Baltimore, and general agent at Washington. In 1943 Mr. Barnett was appointed assistant general freight agent at Washington, transferring to Charleston three years later.

A. O. Plunkett, general freight agent (sales) of the MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE at Minneapolis, has been appointed Eastern general freight agent at New York, succeeding **B. E. Smeed,** who has retired after 51 years of service. **R. E. Howard** has been appointed general agent at Boston, Mass., succeeding **Anthony J. O'Malley,** who has retired after 44 years of service.

Walter J. Regan, district passenger agent of the CENTRAL VERMONT, has been promoted to general passenger agent at St. Albans, Vt. Mr. Regan was born in Wyoming and was graduated from Bellows Free Academy, Fairfax, Vt. He joined the C.V. on April 25, 1916, in the transportation department and subsequently served as chief clerk in the St. Albans freight office, rate clerk in the passenger department and chief clerk. Mr. Regan was appointed district passenger agent at St. Albans on December 1, 1942.

The ILLINOIS TERMINAL has announced removal of its passenger traffic department from 2015 Clear Lake avenue, Springfield, Ill., to its general headquarters—Central Terminal building, 710 North 12th boulevard, St. Louis 1.

L. B. Schlosser, general freight agent of the READING, has been appointed assistant freight traffic manager, with headquarters as before at Philadelphia. **H. J. Lobb, Jr.,** assistant general freight agent at Philadelphia, succeeds Mr. Schlosser as general freight agent. **J. F. Leibrandt,** assistant general freight agent, succeeds Mr. Lobb. **John J. Gallatig** has been appointed assistant to general freight agent.

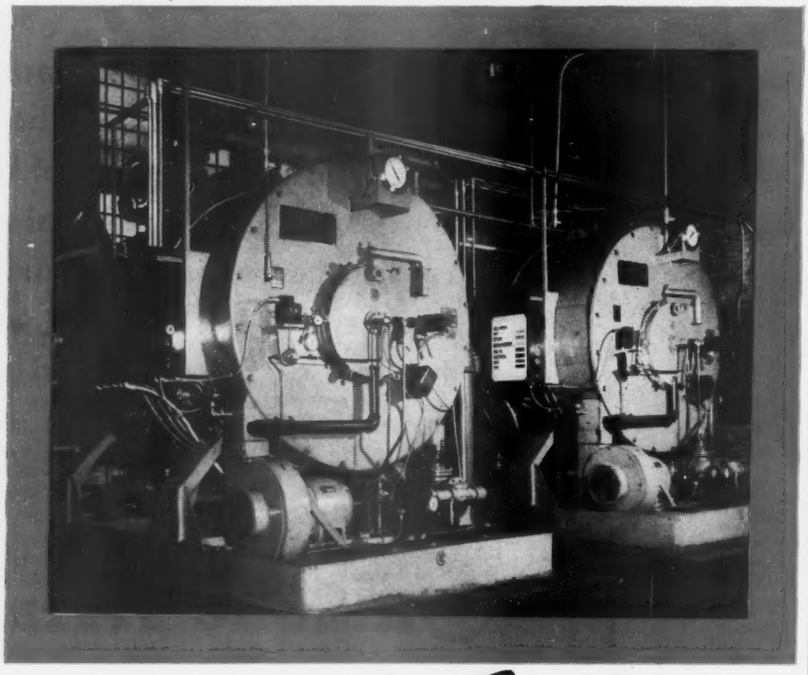
Mr. Schlosser was born at Mainland, Pa., on July 29, 1892, and entered railroad service on August 1, 1907, as file clerk in the general freight department of the Reading at Philadelphia. He later served as tariff clerk, soliciting freight agent, special agent, freight traffic representative, chief clerk in the office of the general freight agent, chief clerk to vice-president of freight traffic, assistant to general freight agent, and assistant general freight agent. Mr. Schlosser was appointed general freight agent in 1947.

Robert P. Daunt, chief clerk to the general passenger agent of the PENNSYLVANIA, has been promoted to district passenger agent, with headquarters as before at New York.

Harold C. Williams has been appointed assistant traffic manager of the NEW YORK, SUSQUEHANNA & WESTERN, and **Thomas B. Dwyer** has been appointed general freight agent, both at Paterson, N. J.

Robert E. Spalding, division freight and passenger agent of the SOUTHERN at Louisville, Ky., has been promoted to general agent at Detroit.

H. S. Young, assistant manager, development service, of the ATLANTIC COAST LINE, has been appointed industrial agent, with headquarters as be-



AMESTEAM *Economy*

With two 250 H.P., 150# design pressure AMESTEAM Generators which burn all types of fuel oil from Bunker "C" down to No. 1, as well as natural gas.

This outstanding installation is on the busy Kentucky & Indiana Terminal Railroad. This important switching railroad is realizing important savings, as these boilers are entirely automatic in operation; no boiler room attendants are required and important fuel savings are realized as these boilers operate with better than 80% *thermal* efficiency.

Get the whole AMESTEAM story. *Phone, write or wire.*

Exclusive Distributors to the Railroads
Engineering, Sales and Service
RAILROAD SUPPLY and EQUIPMENT Inc.
148 ADAMS AVE., SCRANTON 3, PA.
Phone Scranton 7-3391

THE DOOR DESIGNED WITH SHIPPERS IN MIND

SUPERIOR CAR DOOR

- **TIGHT CLOSING** (WEATHER PROOF)
- **SMOOTH INSIDE**
- **BALL BEARING** (ONE MAN, ONE HAND OPERATION)
- **PILFER PROOF**

IT DELIVERS THE GOODS

For smoother door action there is nothing like a ball.

SUPERIOR CAR DOOR COMPANY

CHICAGO 4, ILL.

fore at Atlanta, Ga. **T. J. Whitton,** freight service agent at Wilmington, has been appointed industrial agent at Chicago.

W. J. Harahan, Jr., has been appointed industrial commissioner of the Pere Marquette district of the CHESAPEAKE & OHIO at Detroit, succeeding **H. B. May,** who retired on December 31, 1951, under the company's retirement plan.

Ray D. Massey has been appointed division freight and passenger agent of the CENTRAL OF GEORGIA at Augusta, Ga., succeeding **H. T. Bolton,** who has resigned to engage in other business.

James A. Dunlop, industrial surveyor of the CANADIAN PACIFIC, has been appointed industrial agent of the Quebec and New Brunswick districts, with headquarters as before at Montreal, succeeding **D. N. Cooper,** who has been transferred to the Ontario and Algoma districts at Toronto.

MECHANICAL

J. E. Knittle has been appointed general car inspector of the MICHIGAN CENTRAL at Detroit, succeeding **W. A. Melms,** who has retired after 39 years of service.

ENGINEERING AND SIGNALING

Harry W. Walsh, assistant mechanical and electrical engineer of the NEW YORK CENTRAL, has been appointed mechanical and electrical engineer, with headquarters as before at New York, succeeding **D. B. Thompson,** who retired on January 1. **Richard P. Toussaint,** assistant engineer, succeeds Mr. Walsh as assistant mechanical and electrical engineer.

Mr. Thompson was born on December 14, 1886, at Troy, N. Y., and was graduated from Rensselaer Polytechnic Institute. He joined the N.Y.C. in May 1912 as an inspector at New York and was appointed assistant engineer in 1917, mechanical engineer in 1926 and mechanical and electrical engineer in July 1934.

As reported in *Railway Age* December 10, **T. P. Polson** has been appointed chief engineer of the NEW YORK, NEW HAVEN & HARTFORD at New Haven, Conn. Mr. Polson was born on October 24, 1891, at Branford, Conn., and was graduated from Sheffield Scientific School, Yale University (1913). He entered railroad service in October 1913 as rodman with the New Haven at Waterbury,

T. P. Polson

Conn., and subsequently served as assistant engineer, assistant track supervisor, track supervisor, assistant division engineer, division engineer, maintenance engineer and engineer of track. Mr. Polson was appointed assistant to engineer maintenance of way at New Haven on July 1, 1946; assistant to chief engineer on May 16, 1950; and engineer maintenance of way on January 1, 1951.

James J. Coakley, assistant signal engineer of the JERSEY CENTRAL LINES, has been appointed signal engineer, with headquarters as before at Jersey

(*Continued on page* 267)

Higher Ratio: "*Payload to Dead Weight*"
Differential Air Dump Cars

Differential design and construction skillfully combine greatest strength with lightest possible weight. Saves motive power. fuel, maintenance. Dead weight is an enemy of economy. Differential makes the difference. But that isn't all!

The automatic, either side dumping design — by air power — means still more economy. No matter what loose material there's more payload to dead weight — more all around economy and satisfaction in Differential Air Dump Cars.

Differential Products Include: Air Dump Cars, Locomotives, Mine Cars, Mine Supply Cars, Rock Larries, Mantrip Cars, Dumping Devices and Complete Haulage Systems.

DIFFERENTIAL STEEL CAR COMPANY
FINDLAY, OHIO
SINCE 1915 — PIONEERS IN HAULAGE EQUIPMENT

(*Continued from page* 264)
City, N. J., succeeding **Fred W. Bender,** who has retired after 52 years of service. **Edward F. Smith,** assistant signal supervisor, has been named assistant signal engineer, to succeed Mr. Coakley. Mr. Bender was born at Elizabeth, N. J., on October 15, 1882, and entered railroad service on June 7, 1899, as secretary to superintendent telegraph and signals of the C.N.J. He later served as clerk and circuit designer to signal engineer and in September 1918 became assistant signal engineer. Mr. Bender was appointed signal engineer on March 1, 1920.

Carroll W. Sigmon, track supervisor of the SOUTHERN, has been promoted to division engineer, with headquarters remaining at Asheville, N. C.

PURCHASES & STORES

William T. Cyphers, tie and timber agent of the DELAWARE, LACKAWANNA & WESTERN at New York, retired on December 31, after 50 years of service.

SPECIAL

Paul A. Blauvelt has been appointed publicity director of the LONG ISLAND at Jamaica, N. Y., succeeding **David R. George,** who has been appointed to serve as assistant to chairman of the Long Island Transit Authority at New York. Mr. Blauvelt was formerly on the staff of the Brooklyn Eagle.

R. A. Mullare, has been appointed assistant general manager of the Boston & Maine Transportation Company, BOSTON & MAINE subsidiary. Mr. Mullare was formerly manager of the trucking division of the company.

OBITUARY

Frederick Hart Fechtig, 86, who retired on March 1, 1946, as purchasing agent of the ATLANTIC COAST LINE, died at his home in Wilmington, N. C., on December 31.

Lincoln J. Prendergast, superintendent of communications of the BALTIMORE & OHIO, died at Union Memorial Hospital, Baltimore, on December 29, 1951, at the age of 49. Mr. Prendergast had been in the communications field since 1925, when he joined the staff of the American Telephone & Telegraph Co. as technician in the long lines department. He served as telegraph and telephone engineer of the Southern prior to entering the service of the B.&O. in May 1944 as superintendent of communications. Mr. Prendergast was chairman of the Committee on Inductive Coordination of the Association of American Railroads, Communications Section, and also chairman of the Committee on Electrical Protection.

Preferred power for sand and material spreaders and a wide range of other equipment for road maintenance and construction — the world's most widely used single-cylinder gasoline engine on machines, tools, appliances used by industry, railroads, oil-fields, and on equipment for farm and home.

BRIGGS & STRATTON is the world's largest builder — more than 30 years of continuous production — of single-cylinder, 4-cycle, air-cooled gasoline engines. Briggs & Stratton Corporation, Milwaukee 1, Wisconsin, U. S. A.

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

INTERNATIONAL
HIGH GRADE TREATED
TIES
5¢2
The International Dating Brand
What to Expect
from
"INTERNATIONAL"
1. SOUND, WELL-SEASONED TIMBER
2. A. R. E. A. SPECIFICATION TIES
3. SCIENTIFICALLY TREATED
4. LONG LIFE IN TRACK
5. PERMANENT IDENTIFICATION
INTERNATIONAL CREOSOTING AND CONSTRUCTION CO.
Producers of Treated Ties, Poles, Piles, etc
GALVESTON-BEAUMONT
TEXARKANA

Current Publications

CALENDAR

Evelyn Curro's Second Annual Americana Calendar. 1952, Old Locomotives Edition. Farrar, Straus & Young, Inc., 53 E. 34th st., New York 16. $1.50.

The locomotives in this calendar are free-hand drawings based on photographs from private collections. They are reproduced in color and show the "Best Friend of Charleston," "Old Ironsides," the "Pioneer," a Winans "camel," the "Lonsdale," the "Hackensack," the "General," the "Governor Stanford," the "Minnetonka," the "J. W. Bowker," the "Breckenridge," and No. 999 of the New York Central's "Empire State Express." The calendar is spiral-bound and will hang on a wall so that a locomotive picture appears above each monthly calendar.

PAMPHLETS

Proceedings of the Southeastern Regional Transportation Conference at Atlanta, Ga., June 7-8, 1951. 62 pages. Transportation and Communication Department, Chamber of Commerce of the United States, Washington 6, D. C. $1.

This conference was the second of a series of such regional conferences sponsored by the U. S. C. of C., the previous one having been held in Oklahoma City earlier last year. Addresses on "Strengthening the National Transportation Policy for Defense," "Where the Chamber of Commerce of the United States Stands on Transportation Issues," and "Getting the Transport Mobilization Job Done" were followed by a shippers' session and a carriers' session. These, in turn, were followed by a discussion session. As a sidelight of the conference a transport executives' opinion poll was conducted to obtain southeastern views on current transportation matters and on some of the policies of the national chamber. Results of this poll were reported in *Railway Age*, June 25, page 98.

Statistics of Class I Motor Carriers for the Year Ended December 31, 1949. 87 pages. Prepared by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Available from Government Printing Office, Washington 25, D. C. $1.

Contains financial and operating statistics of motor carriers of property and passengers filing reports with the I.C.C.

In the Dark About the New Wage-Hour Law? 14 pages. The Cincinnati Time Recorder Company, 1733 Central ave., Cincinnati 14, Ohio. Free.

A digest of the federal wage-hour law and recent amendments, this booklet reveals the answers which business men should have to hundreds of questions to avoid violation of the law. For example, it tells who must keep records and what records must be kept. It defines exempt and non-exempt employees, tells how to compute wages for salaried and hourly workers, lists penalties imposed for noncompliance with the wage-hour law, and tells clearly how to avoid them. It is written simply in language that does not require interpretation by a "Philadelphia lawyer," and is illustrated with sprightly cartoons portraying the evils that befall those employers who are found not in compliance with the law.

The Rubber Railroad. 32 pages, mimeographed. Compiled by the Special Transportation Committee, 16 E. Broad st., Columbus 15, Ohio.

A summary of developments before the Ohio state legislature in connection with the Riverlake Belt Conveyor Lines proposal, since the issuance of the committee's "Fact Book" last year. It is prefaced with a history and general description of the proposal. Much of the text is formed from direct quotations of protagonists and antagonists of the belt scheme, and there is an extensive section devoted to press and editorial comment. Labor, civic and municipal groups opposing the conveyor—including 117 city and village councils, nine counties and 17 labor unions—are listed.

Pieces of Eight. 4 pages, illustrations. Distributed by the National Management Committee, 1951 Perfect Shipping Campaign, National Association of Shippers Advisory Boards, Chicago.

Sunken treasure may contain valuable "pieces of eight" for the treasure hunter, but shippers can find greater buried treasure by hunting for the causes of concealed damage to their shipments. Pointing out that improper packing is at the root

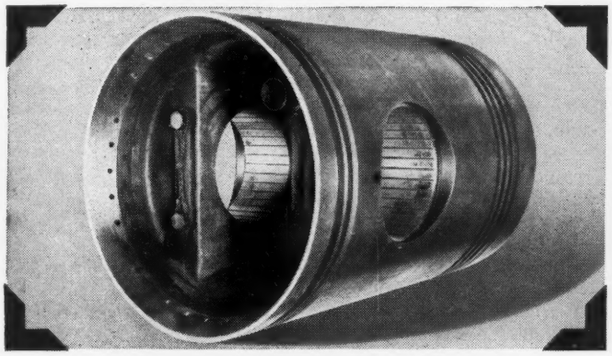
Spurs on steel cleats drive deep into floor and side walls from pressure...become almost a part of freight car... afford ladings 100% protection from shocks and switching impacts*. Thousands of service trips prove this. Endorsed by re-order customers among leading Manufacturers and Railroads. Write NOW for all the facts.
*6 MPH speed impacts may be safely established as normal switching operation when PEYTON SPUR CLEATS are used.
PEYTON SPUR CLEAT CO.
POST OFFICE BOX 4664 • DALLAS, TEXAS
TELEPHONE TREMONT 6060

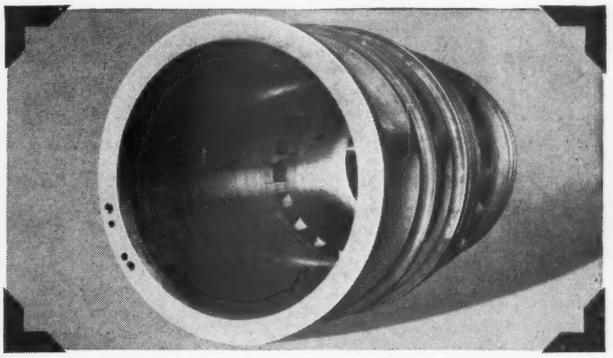
STANDARD ENGINEER'S REPORT

DATA

LUBRICANT RPM Delo Oil R.R.
UNIT Diesel Locomotive cylinder assembly
SERVICE Mountain Freight
LOCATION Transcontinental freight service on Moffat tunnel & Royal Gorge Routes
PERIOD In excess of 8 years
FIRM Denver & Rio Grande Western R.R.Co.

One million miles of service on cylinder liners and pistons





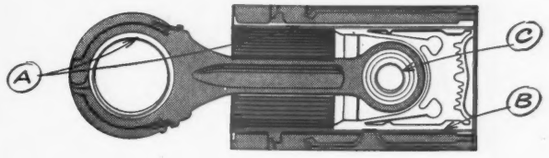
IN SERVICE APPROXIMATELY 1,000,000 MILES in Denver & Rio Grande Western Railroad diesel locomotive engines, this piston and cylinder liner were always lubricated with RPM DELO Oil R.R. At the end of that time wear measurements (inches) were only: Piston Skirt—0.001; Ring Grooves—No. 1—0.003 to 0.006, No. 2—0.002, No. 3 & 4—none; Cylinder liner (maximum diameter)—0.0095, (out of round)—0.002 to 0.004.

RPM DELO Oil R.R. has been the standard on the Denver & Rio Grande Western Railroad for over-the-road freight and passenger locomotives since their first power of this type was placed in service in January 1942. At the time this inspection was made approximately 49,563,104 miles had been traversed by the Rio Grande freight diesel fleet of 100 units and during that period only 77 cylinder liners had been scrapped for any reason. At that time many of the original pistons and cylinder liners were still in service and the average age of all these assemblies, including recently purchased power, was 4.7 years.

RPM DELO LUBRICATING OILS

TRADEMARK "RPM" REG. U.S. PAT. OFF.

How RPM DELO Oil R. R. prevents wear, corrosion, oxidation



A. Special additive provides metal-adhesion qualities...keeps oil on parts whether hot or cold, running or idle.

B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean... helps prevent scuffing of cylinder walls.

C. Special compounds stop corrosion of any bushings or bearing metals and foaming in crankcase.

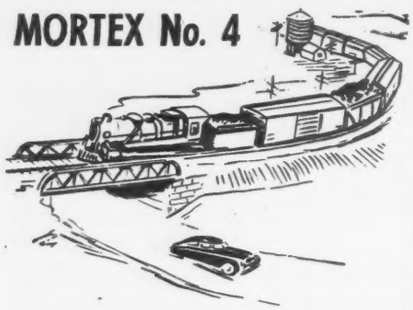
FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any of the companies listed below.

STANDARD OIL COMPANY OF CALIFORNIA
225 Bush Street • San Francisco 20, California

THE CALIFORNIA COMPANY
P. O. Box 780 • Denver 1, Colorado

STANDARD OIL COMPANY OF TEXAS
P O. Box 862 • El Paso, Texas

CONSERVE ROLLING STOCK, YARD and Right-of-Way EQUIPMENT with MORTEX No. 4



- Protects against rain and moisture
- Protects against salt brine
- Protects against acid and alkali fumes
- Odorless
- Non-toxic
- Vermin-proof

One application of this tested coating is far superior to paints and cut-back asphalt products. It's the most practical low-cost rust preventive for roofs, interiors and underframes of steel freight and refrigerator cars, covered hopper cars used for soda ash, lime and similar products, ice bunkers and equipment exposed to acid fumes and gases.

It's tops for steel bridges, cooling system ducts and sumps, outside storage tanks, tool houses and bins.

Will not run, sag, blister or craze at temperatures up to 250° F.

EASY TO APPLY

Mortex No. 4 can be put on with brush, trowel or spray. It adheres to any clean dry surface and forms a rich, dull black finish.

TRY IT YOURSELF

Most railroads get Mortex No. 4 in 55 gallon drums, but you can order either a 1-gallon or a 5-gallon can and put it through your own comparative tests.

Write for literature

J. W. MORTELL CO.
Technical Coatings since 1895
563 Burch St., Kankakee, Ill.

of much of this annual loss, A. H. Schwietert, chairman of the committee, urges consignees to inspect fully the condition of goods received from all shippers; record all goods received unsalable; describe nature of recurrent damage carefully to the shipper, and let him know how other shippers pack the same or similar products successfully.

TRADE PUBLICATIONS

Vinylite Plastics. 27 pages. Published by Bakelite division, Union Carbide & Carbon Corp., 30 East 42 st., New York 17.

This booklet lists in detail electrical and physical characteristics of various compounds designed for insulation on wires and cables used for different purposes, such as power circuits, and for signal control and telephone communications circuits.

Distinctly yours, 12 pages, illustrations. Thomas A. Edison, Inc., West Orange, N. J.

Describes features and advantages of the Disc Edison Voicewriter.

Yale Worksaver Electric Trucks. 16 pages, illustrations. Philadelphia Division, Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

Drawings, photographs and text are combined to show operation, occupational uses and some features of the various types of trucks in the Worksaver line. Drawings show the many devices which can be attached to the trucks where necessary for performance of specialized handling jobs.

Yale Electric Trucks (Bulletin P5151). 12 pages, illustrations. Yale & Towne Manufacturing Co., Philadelphia Division, 11000 Roosevelt blvd., Philadelphia 15, Pa.

Describes the complete line of electric trucks in capacities ranging from 1,000 lb. to 100,000 lb. A chart of specifications for aid in selection is given.

Equipment for Railroad Liquids. 24 pages, illustrations. Bowser, Inc., Ft. Wayne, Ind.

In this publication Bowser catalogs its complete line of equipment for handling oils, paint oils, and liquid fuels. Included are illustrations and descriptive data covering such items as fueling systems for diesel and gas-electric locomotives, systems for unloading and storing fuels, lubricating-oil systems, printing delivery systems for accounting control, metering equipment and accessories, rotary power pumps and accessories, barrel and can-filling units, "Serv-A-Train" fueling units, cartridge filters, unloading and fueling equipment for oil houses or supply cars, lubricating-oil and paint-oil outfits, and fog fire-fighting equipment.

Raymond Hydraulic Lift Trucks (Bulletin No. 207). 4 pages, illustrations. Raymond Corporation, 2686 Madison st., Greene, N. Y.

All models of this company's line of hydraulic lift trucks are shown, specifications given and special features highlighted.

Complete loudspeaker paging and two-way communicating systems for classification yards, terminal facilities, mail and baggage handling facilities, passenger stations, freight stations, engine houses, interlocking towers, car checking service, and for Dispatcher's and other low level telephone type line applications.

- Control consoles
  Direct two-way communicating equipment
  Low level line two-way communicating equipment
  Intercommunicating systems
  Paging systems
  - Portable sound systems
    Pre-amplifiers
    Power amplifiers
    Way station amplifiers
    Dispatcher's transmitter and receiver units
    - Telephone line concentration units
      Telephone line monitoring units
      Remotely controlled systems
      Automatic volume level compensating units
      Time and emergency signal devices
      - Microphones
        Loudspeakers
        Weatherproof control units
        Switch and jack box assemblies
        Equipment cabinets
        - Power supply units
          Relays — switches — transformers
          Speech frequency band-pass filters
          Wire — cable
          Control equipment for special applications
          Portable tape recorders

R. W. NEILL COMPANY
MANUFACTURERS • ENGINEERS
1811 CARROLL AVENUE, CHICAGO 12, ILLINOIS